PSYCHOLOGICAL DISTRESS, ANXIETY, DEPRESSION AND SUICIDE IDEATION IN WOMEN WITH BREAST CANCER IN WINDHOEK

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ABSTRACT

Breast cancer is the second leading cause of death in women worldwide and the most common cancer diagnosed in women. Additionally, it is the most prevalent malignancy among African women. In Namibia, breast cancer was the leading cause of cancer in women between 2010 and 2014, accounting for 1,579 cases, and constituted for 27.4% of all female cancer cases. Psychological distress is a normal response to a cancer diagnosis and its treatment. However, psychological distress often goes unrecognized and untreated in breast cancer patients due to priority given to the physical aspects of the disease. Psychological distress exists in the form of natural feelings of vulnerability, melancholy, and dread to more serious ailments including depression, anxiety, panic attacks, social isolation, and existential and spiritual crises. Distress and a psychological condition such as anxiety or depression exist on a continuum. Anxiety is prevalent in a cancer patient during critical events, such as the beginning of a new cancer treatment, receiving a recurrence diagnosis, or advancement of the illness. Depression is frequently cited as a psychological side effect of cancer, and it is one of the most researched psychological experiences. To the researcher's knowledge, there have been studies on psychological distress, anxiety and depression in Namibia, however, there are no studies in Namibia that have specifically focused on suicidal ideation in women with breast cancer. This study aimed to explore the levels of psychological distress, anxiety, depression, and suicide ideation among women diagnosed with breast cancer, as well as the relationships between the variables. The research employed a quantitative, correlational, descriptive, and cross-sectional design. Three self-report instruments and a self-designed sociodemographic questionnaire were utilized. These instruments included the Hospital Anxiety and

Depression Scale (HADS) to assess the levels of anxiety and depressive symptoms, the Emotion Thermometer (ET) to screen for psychological distress, and the Columbia–Suicide Severity Rating Scale (C-SSRS) to assess suicide ideation. SPSS (version 29) was used to analyse the data. The levels of psychological distress, anxiety, depression, and suicide ideation are described through descriptive statistics, that is, means, standard deviations, range of scores, and frequencies. The study involved 101 participants. Approximately 27.7% and 32.6% had significant levels of depression and anxiety, respectively. Approximately 47.5% (from the total ET score) displayed mild to severe levels of psychological distress, 30.7% had significant levels of psychological distress from the total HADS score, and 12.9% of the participants reported suicidal ideation. Strong positive correlations were identified between anxiety (measured by HADS-A) and depression (measured by HADS-D) ($r = 0.64$, $n = 101$, $p < 0.01$). Additionally, significant strong positive correlations were observed between anxiety (measured by HADS-A) and psychological distress (total ET score) ($r = 0.72$, $n = 101$, $p < 0.01$), and between depression (measured by HADS-D) and psychological distress (total ET score) ($r = 0.52$, $n = 101$, $p < 0.01$). Furthermore, a significant, strong, positive correlation existed between anxiety (measured by HADS-A) and suicide ideation ($r = 0.53$, $n = 101$, $p < 0.01$), while there was a significant, moderate, positive correlation between depression (measured by HADS-D) and suicide ideation ($r = 0.34$, $n = 101$, $p < 0.01$). Finally, there was also a significant, strong, positive correlation between psychological distress (total ET score) and suicide ideation ($r = 0.50$, $n =101$, $p < 0.01$). The study's findings align with global literature concerning the psychological challenges faced by women living with breast cancer. Given the prevalence of psychological distress, depression, anxiety, psychological distress, and suicidal ideation in this sample, the study advocates for psychological

interventions for women diagnosed with breast cancer. Distress can be minimized by having a supportive family, social networks, and access to beneficial knowledge. Anxiety, depression and suicide ideation are mental health conditions that in severe cases requires evidence-based treatments. Psychotherapy or medication can be used to manage and treat symptoms. Furthermore, it is recommended that future research in Namibia consider qualitative approaches to better understand women's unique experiences with breast cancer.

Keywords: Psychological distress, anxiety, depression, suicide ideation, psycho-oncology, HADS, ET, C-SSRS

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LIST OF ABBREVIATIONS AND/OR ACRONYMS

APA	American Psychiatric Association
AORTIC	African Organisation for Research and Training in Cancer
CAN	Cancer Association of Namibia
CBT	Cognitive Behaviour Therapy
CDC	Centers for Disease Control and Prevention
C-SSRS	Colombia Suicide Severity Rating Scale
DSM	Diagnostic and Statistical Manual of Mental Disorders
DT	Distress Thermometer
ET	Emotion Thermometer
HADS	Hospital Anxiety and Depression Subscale
HADS-A	Anxiety subscale
HADS-D	Depression subscale
HIV	Human Immunodeficiency Virus
IPOS	International Psychosocial Oncology Society
LMICs	Low and middle-income countries
MoHSS	Ministry of Health and Social Services
NNCR	Namibia National Cancer Registry
NOC	Namibian Oncology Centre
POSK	Psycho-Oncology Society of Kenya
POSON	Psycho-Oncology Society of Nigeria
SD	Standard Deviation
UREC	University of Namibia Research Ethics Committee

WHO	World Health Organisation

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DEDICATIONS

This mini-thesis is dedicated to all the courageous women who are battling breast cancer and also to those who have lost the battle.

“Fearless does not mean you are not afraid; it means you accept the fear and move forward anyway.”

~Brianne Joseph

DECLARATIONS

I, Zara Mbangtang, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution. No part of this thesis may be reproduced, stored in any retrieval system, or transmitted in any form, or by means (e.g. electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or The University of Namibia in that behalf. I, Zara Mbangtang, grant The University of Namibia the right to reproduce this thesis in whole or in part, in any manner or format, which The University of Namibia may deem fit.

Zara Mbangtang		October 2024
Name of student	**Signature**	**Date**

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Breast cancer is the sixth-leading cause of cancer-related deaths worldwide and is the most common disease diagnosed in women (Elzohry et al., 2019). Breast cancer accounted for 25% of all female cancer cases in 2020, making it the most common cancer diagnosed among women (Arnold et al., 2022). Once believed to mostly affect the elderly or the majority of postmenopausal women, breast cancer is now increasingly being diagnosed in young women, even those as young as 30 years old (Kreitler, 2019).

In low and middle-income countries (LMIC), breast cancer incidence rates are reportedly increasing by 5% annually (Kangmennaang et al., 2017). In sub-Saharan Africa, 7 out of 10 women are diagnosed with advanced stages of breast cancer, and the prognosis for survival is generally low (Joko-Fru et al., 2021). Recent statistics from Namibia indicate that between 2010 and 2014, breast cancer was the most common malignancy in Namibian women, with a total of 1,579 cases, accounting for 27.4% of all female cancer cases (Zietsman et al., 2017). According to Kangmennaang et al. (2017), the incidence rate of breast cancer in Namibia is projected to be 29 per 100,000, with a five-year prevalence of 37 per 100,000 among adult women and an age-standardized rate of 24 per 100,000 among females of all ages. However, breast cancer receives inadequate attention from the public health system compared to HIV/AIDS, tuberculosis, and malaria.

A breast cancer diagnosis constitutes a multitude of consequences; medical, physical, emotional, and psychological (Iddrisu et al., 2020). The diagnosis and treatment typically persists for years and involves medical examinations, surgeries, and adverse effects of medicine from chemotherapy, radiation, and hormone therapy treatment (Kreitler, 2019; Van Oers & Schelbusch, 2021). For many women, a breast cancer diagnosis carries feelings of grief, isolation, hopelessness, and shame (Iddrisu et al., 2020). Fears and anxieties that a woman may have suppressed for years come to the forefront when they receive a breast cancer diagnosis (Kreitler, 2019). These concerns include the disease's proximity, the absence of preventative measures, the emotional and social repercussions of succumbing to it, and the fear of death (Vrinten et al., 2017). Additionally, women grapple with fears regarding specific aspects, such as body image, sexuality, and fertility (Akuoko et al., 2017).

Receiving a diagnosis of breast cancer is widely recognized as a traumatic experience, often leading to significant psychological distress, including anxiety, depression, and suicidal ideation (Van Oers & Schlebusch, 2021). It is worth noting that a cancer diagnosis is considered a suicide risk, however, this factor is often overlooked and underestimated by physicians (Şengül et al., 2014). Suicidal thoughts and even suicide attempts are not uncommon in the wake of a cancer diagnosis (Babakhanloo et al., 2017). A systematic review by Kolva et al. (2019) found that the prevalence of suicide ideation varies greatly among cancer patients, ranging from 0.7% to 46.3%. In comparison to the general population, Kim et al. (2013) suggest that individuals with cancer have an increased chance of attempting suicide. They are almost twice as likely to commit suicide than the general population, particularly if their cancer affects the lungs, digestive system, or

oropharynx (Saad et al., 2019). This is because receiving a cancer diagnosis and receiving treatment is associated with significant physical and psychological distress (Kazlauskiene et al, 2022). A study by Peters et al. (2020) found that 65.9% of cancer patients reported high levels of distress. Reich et al. (2008) found a 42% prevalence of mental health issues in breast cancer patients, with 35.7% reporting anxiety or low moods. Furthermore, a systematic review by Ji et al. (2020) found that cancer survivors compared to noncancer patients had higher rates of major depressive episodes (18.1% vs 9.6%), serious psychological distress (34.2% vs 17.9%), suicidal thoughts (10.5% vs 7.0%), any mental illness (41.1% vs 23.3%), and serious mental illness (13.2% vs 5.9%).

Social factors such as age, sex, economic status, and marital status are associated with suicide among cancer survivors (Shi et al., 2022). Clinical risk factors also associated with suicide among cancer survivors include depression, distress, pain, cancer site and subtypes (Shi et al., 2022). Saad et al. (2019) further state that the primary cause of suicide is depression, and it is predictive of suicide in cancer patients, particularly in older US populations. Previous study reported that age, race, marital status, and undergoing surgery were independent risk factors for suicide of breast cancer patients (Gaitanidis et al., 2018).

The literature on suicide and cancer disease is scarce in the context of underdeveloped nations (Kulkarni, 2022; Van Oers & Schlebusch, 2021). Assessing suicidal ideation and its consequent behaviours in breast cancer patients is thought to be crucial for all healthcare professionals (Babakhanloo et al., 2017). It is critical to obtain a thorough understanding of a patient's psychological state in order to alleviate their distress (Van Oers, 2021). Examining the psychological factors that influence a cancer patient’s

functioning is also the main focus of contemporary Psycho-Oncology (Van Oers & Schlebusch, 2021). Psycho-Oncology serves to be an inspiration for this research.

1.2 Statement of the problem

In Africa, Psycho-Oncology is in its early stage. Research in Psycho-Oncology in Namibia is still in its infancy stage. Several studies were carried out in recent years. A study by Mwafufya (2018) investigated psychological distress, anxiety, and depression experienced by men living with prostate cancer in Windhoek. Another study by Ndjaleka (2018) focused on the psychosocial experiences of adolescents diagnosed with cancer in Windhoek. Tjiroze's (2013) research investigated distress and coping in adult family caregivers of cancer patients in Windhoek. Shino's (2010) study focused on psychological distress, quality of life, coping, and adjustments in Oshiwambo-speaking women with breast and/or cervical cancer in Oshakati. To the researcher's knowledge, there are no studies in Namibia focusing specifically on suicidal ideation in breast cancer patients.

Suicide remains a predominant issue in Namibia. Furthermore, compared to the United States of America and Europe, LMICs have a scarcity of literature on suicide and cancer (Van Oers & Schlebusch, 2021). Sauer et al. (2022) suggest that a cancer diagnosis is associated with a higher risk of suicide, and the contemplation of suicide is a symptom of severe psychological distress. They further suggest that suicide ideation is a risk factor for suicide. According to Van Oers and Schlebusch (2021), there is a dearth of research and attention given to the relationship between cancer and suicide. This could be because the effects of receiving a potentially fatal diagnosis such as cancer, the effects of cancer treatments, and the duration of recovery are underestimated (Van Oers & Schlebusch, 2021). Given this background and the stated research gap, the purpose of this research is

to explore psychological distress, anxiety, depression, and suicide ideation in women diagnosed with breast cancer and receiving treatment in Windhoek, Namibia.

1.3 Objectives of the study

The primary aim of this research is to describe psychological distress in women diagnosed with breast cancer and receiving treatment in Windhoek. The objectives of this study are three-fold:

- Firstly, to explore the levels of psychological distress, anxiety, depression, and suicidal ideation among breast cancer patients.
- Secondly, to describe the relationships between psychological distress, anxiety, depression, and suicidal ideation in breast cancer patients.
- Thirdly, to describe the relationship between sociodemographic variables, psychological distress, anxiety, depression, and suicide ideation in women with breast cancer.

1.3.1 Hypothesis

The hypothesis of this study is that women diagnosed with breast cancer have severe levels of psychological distress, anxiety, depression and suicide ideation and each of these variables are strongly correlated.

1.4 Significance of the study

Breast cancer patients are susceptible to psychological distress, which includes depression, anxiety, and suicide ideation (Van Oers & Schlebusch, 2021). There is also a lack of research on suicide ideation in breast cancer patients. To facilitate possible intervention strategies, it would be helpful to know the levels of psychological distress,

anxiety, depression, and suicide ideation in women living with breast cancer. Furthermore, what is noteworthy about this research is its contribution to the growing base of knowledge in the discipline of Psycho-Oncology in Africa, particularly in Namibia (Mwafufya, 2018).

1.5 Limitations of the study

One of the limitations of this study is that it focuses only on breast cancer patients receiving treatment in Windhoek, which does not represent all breast cancer patients in Namibia. Another limitation is that the instruments being used for this study are in English, which might be difficult for breast cancer patients with low English Language competency. Additionally, suicide ideation is a sensitive topic, a qualitative approach would likely yield more in-depth information. Further limitations of the study is that the data was collected cross-sectionally, which means it was only done once. A longitudinal data collection approach will yield more valuable results.

1.6 Delimitations

This study will specifically focus on women who have been diagnosed with breast cancer and receiving treatment at the Dr. A. Bernard May Cancer Centre or the Namibian Oncology Centre (NOC) in Windhoek, Namibia. It will focus on the patients' levels of psychological distress, anxiety, depression, and suicide ideation.

1.7 Definition of key concepts

The following keywords have been defined for the purposes of this mini thesis: **psychological distress**, **anxiety**, **depression** and **suicide ideation**. Furthermore, the terms psychological distress and distress will be used synonymously.

Distress is defined by the US National Cancer Centre Network as a complex, difficult experience that has an impact on a person's behaviour, emotions, social interactions, psychological health, and spiritual well-being (Holland et al., 2010). It is believed that distress makes it more difficult for an individual to manage the effects of a cancer diagnosis and the treatment (Holland et al., 2010). Common feelings like vulnerability, grief, and dread to crippling conditions like social isolation, depression, anxiety, panic attacks, and existential and spiritual crises are all part of the spectrum of distress (Berhili et al., 2017; Holland et al., 2010).

Anxiety can be defined as a typical and adaptive response to a perceived threat that prepares an individual for flight or fight (Sadock et al., 2015). It consists of two components: physiological symptoms, for example, palpitations and perspiration, and psychological sensations like dread or terror (Sadock et al., 2015). It is an emotion that is characterized by muscle tension, worry, stress, a sense of impending danger, and avoidant behaviour (Baqutayan, 2012; Sadock et al., 2015).

Depression is a prevalent, incapacitating feeling of low moods, and a potentially lethal disorder (Stringaris, 2017). The American Psychiatric Association (APA) (2013) described depressive disorders as “the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function” (p. 115).

Suicide ideation (SI) also termed as suicidal thoughts or ideas, refers to various thoughts, desires, and obsessions regarding death or suicide (Harmer et al., 2020). There is no such thing as a typical suicidal ideation, there is also no such thing as a typical suicide victim (Harmer et al., 2020). The nature, duration, and severity of SI varies. It can range from

transient wishes to go to sleep and never wake up to extreme fixations of annihilating oneself fuelled by delusions (Nigussie et al., 2023; Harmer et al., 2020).

1.8 Chapter summary and outline of chapters to follow

Breast cancer in women is a global health challenge. It has been noted that it presents an array of adverse effects such as; psychological distress, anxiety, depression, and suicidal ideation. In this chapter the background of the study, statement of the problem, objectives, limitations and delimitations of the study were presented.

In the second chapter, the literature review will be presented. The methodology of the study will be outlined in the third chapter. The results of the study and the discussions thereof will be presented in the fourth and fifth chapters, respectively. Chapter 6 will include the study's conclusions, strengths and limitations, recommendations for practical implementation and future research, as well as personal reflections.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Breast cancer is a condition in which the breast cells proliferate out of control (Centers for Disease Control and Prevention (CDC, 2022). It is a malignant tumour that originated from breast cells (Baqutayan, 2012). The CDC (2022) states that there are three components of a breast: connective tissue, ducts, and lobules. Lobules are responsible for milk production, ducts transport milk to the nipple, and connective tissue, consisting of fatty and fibrous material, supports all these components. Breast cancer mostly begins in the ducts or lobules (Feng et al., 2018; Sharma et al., 2010). Therefore, breast cancer is the uncontrollable growth of epithelial cells that begins in the ducts or lobules of the breast (Baquatayan, 2012; Reilly, 2007).

WHO (2021) estimates that 85% of breast cancer develops in the epithelium (lining cells of the ducts) and 15 % in the lobules. Penberthy et al. (2023) state that the malignant development often exhibits no symptoms and has a low propensity to metastasize when it is first contained within the duct or lobule. According to Welch and Hurst (2019), metastasis is the main factor contributing to cancer-related mortality and morbidity. It is the process of spreading to a distant or adjacent discontinuous secondary location and creating macroscopic secondary foci (Welch & Hurst, 2019). Stages of breast cancer are defined by tumour size, nodal involvement, metastases, and biomarkers such as ERBB2 (formerly known as HER2), progesterone, and oestrogen receptors (Sharma et al., 2010). Sharma et al. (2010) state that there are two primary categories for breast cancer stages: invasive and in situ (not invasive). Stages are identified by a number (0–IV) (Akram et

al., 2017; Sharma et al., 2010). Stage 0 describes non-invasive tumours, while stage 4 describes invasive tumours (Akram et al., 2017). Penberthy et al. (2023) mention that tumours in stage 0 have the potential to grow and invade neighbouring breast tissue over time. Stage 4 breast cancer, also referred to as metastatic cancer, occurs when cancer cells from a malignant tumour spreads to other areas of the body and develop into secondary tumours via the bloodstream or lymphatic system (Liu, 2022; WHO, 2021). The bulk of fatalities from breast cancer in women are due to widespread metastases (WHO, 2021).

In terms of causes of mortality for women worldwide, breast cancer ranks second and continues to be the most common disease diagnosed in women (Akuoko et al., 2017; Babakhanloo et al., 2017). According to Penberthy et al. (2023), breast cancer diagnoses are more common as people age and can occur in anyone after puberty. The year 2020 saw 2.3 million cases of breast cancer identified in women worldwide, with 685,000 fatalities from the disease (Bachcivan et al., 2022). Kim and Heo (2022) reported that between the years 2015 and 2020, breast cancer was diagnosed in 7.8 million women worldwide, making it the most common malignancy.

The most prevalent malignancy among African women is breast cancer, its incidence has continued to increase over the past 30 years (Sharma, 2021; Vanderpuye et al., 2017). Sinha et al. (2022) reported that sub-Saharan Africa carries the bulk of this growing global disease burden. The incidence of breast cancer per 100,000 women in sub-Saharan Africa is estimated to be 38.9 in Southern Africa, 38.6 in West Africa, 30.4 in East Africa, and 26.8 in Central Africa, despite the paucity of available data (Sinha et al., 2022). The scarcity of evidence makes it difficult to gauge the disease burden in this region because most countries in sub-Saharan Africa lack cancer registries (Anyigba et al., 2021;

Vanderpuye et al., 2017). In sub-Saharan Africa, there are functioning cancer registries in about 20 (43.4%) of the 46 WHO member states, varying in their coverage and completeness. (Anyigba et al., 2021). Anigba et al. (2021) further state that these registries do not adhere to active data collection standards, often focusing on select sub-national groups, that are underfunded and lacking demographic specificity. Therefore, breast cancer might be overlooked in Sub-Saharan Africa, where governments prioritize other healthcare issues, particularly communicable diseases.

Limited data reveals that breast cancer prevalence in Central African countries like Cameroon and the Central African Republic stands at 5.8% and 15.27%, respectively (Cumber et al., 2017). In southern Africa, Sinha et al. (2022) found that breast cancer was the second most common cancer among women in Botswana and the most prevalent type of cancer in women in South Africa. However, screening for breast cancer remains extremely difficult to implement in both countries. The Cancer Association of Namibia (CAN) has yet to update its cancer registry, as data beyond 2014 has not been entered. However, Okyere et al. (2023) suggest the Namibia National Cancer Registry (NNCR) registers an average of 549 new breast cancer cases every year. Kangmennaang et al. (2017) reported the 5-year breast cancer prevalence among adult females is 37 per 100,000. Among the 1579 female cases of breast cancer registered by the NNCR between 2010 and 2014, 44.7% were white, 38.3% were coloured, 35.7% Nama, 31.4% Baster, 29.5% Damara, 26.5% Herero, 24.5% Ovambo, 21.5% Kavango, 17.6% Tswana, and 11.8% Caprivian. (Zietsman et al., 2017).

Early detection is a fundamental element in the fight against breast cancer (WHO, 2022). Efforts to promote early diagnosis focus on breaking down barriers to healthcare,

enhancing the accessibility of effective diagnostic services, and facilitating efficient cancer treatment (Anyigba et al., 2021). Nevertheless, in sub-Saharan Africa, the stigma surrounding a breast cancer as a result of certain cultural beliefs, creates obstacles to seeking medical attention and achieving early diagnoses (Akuoko et al., 2017; Kangmennaang et al., 2017). In regions like Ghana, some herbalists attribute the illness to supernatural forces, suggesting that it can only be treated through spiritual means, rather than by hospital doctors (Opoku et al., 2012). The notion that breast cancer has supernatural and ancestral roots also causes emotions of shame and powerlessness in many women in sub-Saharan Africa (Tetteh & Faulkner, 2016). Another prevailing misconception in cultures like Nigeria is the belief that breast cancer results from socially unacceptable behaviours, for example, having oral or nipple contact, wearing unclean clothing, or placing money in bras (Kangmennaang et al., 2017). The stigma surrounding mastectomy in some sub-Saharan African cultural contexts can foster a sense of inadequacy in women, discouraging them from seeking timely medical consultations (Akuoko et al., 2017; Kangmennaang et al., 2017; Stecher et al., 2019). This is due to the cultural ideal that a complete woman has two breasts (Anyigba et al., 2021). Opoku et al. (2012) highlighted an interview with a breast cancer patient in a Ghanaian facility, where the patient expressed, "You see the breasts are very important to every woman, without which, a woman is never complete, and no man would be happy to marry a woman whose breast is removed, and I would prefer to die than to live without my breasts" (p. 3). Women are known to hesitate to seek breast cancer screening promptly when they fear the impact a diagnosis could have on their marital prospects or their chances of finding a partner (Kangmennaang et al., 2017).

A lack of understanding of cancer, limited diagnostic resources, inadequate facilities for treatment and detection, and a severe shortage of medical professionals with expertise in cancer diagnosis and care are possible reasons for late screening and detection of cancer in sub-Saharan Africa (Anyigba et al., 2021). Women's hesitation to seek treatment for breast cancer has been linked to fear. This includes fear of a cancer diagnosis, fear of being examined by a doctor, and fear of being stigmatized if proven positive (Akuoko et al., 2017).

This section's introduction defined breast cancer, explored its prevalence in the world and sub-Saharan Africa, and addressed common misconceptions about the disease that obstruct early detection and treatment options. An overview of Psycho-Oncology globally, as well as in Africa and Namibia, will be presented in the remaining portions of this chapter. Furthermore, the chapter will conclude with a discussion on the overall experiences of breast cancer patients which include psychological distress, anxiety, depression and suicide ideation.

2.2 Overview of Psycho-Oncology

2.2.1 History of Psycho-Oncology

One of the earliest subfields of health psychology to emerge at the nexus of medicine and psychology is Psycho-Oncology (Kreitler, 2019). It is the care of cancer patients from a psychological, behavioural, spiritual, and ethical standpoint (Asuzu, 2019).

Psycho-Oncology examines the social, psychological, and lifestyle aspects of cancer (Paripiyeva & Mirzajonova, 2022). It looks into the social and psychological influences that patients' families, the medical profession, and other external factors have on the occurrence of cancer and carcinogenesis (Holland, 2018). It considers cognitive

impairments brought on by chemotherapy and light therapy, as well as the placebo and nocebo effects (Paripiyeva & Mirzajonova, 2022). According to Geers et al. (2020), the placebo effect is psychobiological phenomena in which stimuli linked to a therapy induce changes in health without the need for any of the treatment's active ingredients. In addition, the reverse of the placebo effect is known as a placebo effect, in which negative consequences are also brought on by certain elements of the therapeutic setting. For example, warnings concerning the potential negative effects of inactive therapy may occur. Psycho-Oncology promotes broad treatment goals such as quality of life and well-being and aims to achieve a disease-free state that incorporates functional outcomes in rehabilitation (Holland, 2018).

In the 1800s, a cancer diagnosis was equated to death (Dolbeault et al., 1999). There was no known cause or remedy. Holland (2002) states that informing a patient of their diagnosis would be harsh and inhumane because they would lose all hope, and chances of survival were better when a patient was not aware of their diagnosis. Additionally, due to the stigma that was associated with both the patient and the family as a result of the cancer, the family was afraid to disclose the diagnosis to others. Shame and remorse were the main feelings, along with the worry that cancer would spread (Dolbeault et al., 1999; Holland, 2002). These were a few of the elements that hampered the advancement of Psycho-Oncology (Kreitler, 2019).

Debates on whether to inform a patient of their cancer diagnosis began in the 1950s (Dolbeault et al., 1999). Holland (2018) reports that there were limited opportunities to psychologically interact with patients and investigate the psychological origins of cancer. This was because of the hesitation, denial, and silence that persisted on whether or not to

reveal a cancer diagnosis. Additionally, there were a few valid assessment tools and research methods available to a small number of clinicians, researchers, and the biomedical community worldwide. According to Kreitler (2019), the lack of evidence-based knowledge on Psycho-Oncology was another element that posed a notable obstacle to the development of the field. This was because patients and families were reluctant to take part in the studies. Furthermore, patients and families were reluctant to openly discuss the more intimate details of a cancer diagnosis, especially in the early stages.

Holland (2018) reported that the 1970s marked a turning point in cancer patient care, especially in Europe and North America. At that time, more focus was on two significant psychosocial issues: delayed consultations for concerns of cancer and treatment compliance. Clinical and experimental psychologists started examining patients in the 1960s and 1970s using more quantitative measures and, eventually, techniques that allowed examination of connections between the physiological and psychological (Holland, 2002). In this period, the stigma associated with the word "cancer" was lessened to the point where it was possible to divulge the diagnosis and examine how patients felt about their condition (Dolbeault et al., 1999; Holland, 2002).

Presently, interventions that aim to help a cancer patient's condition have become the hallmark of Psycho-Oncology research. A ground-breaking study conducted by David Spiegel (as cited in Sadock et al., 2015) discovered that women with metastatic breast cancer who received treatment and attended group psychotherapy each week lived 18 months longer than controls who received only standard treatment. This suggests that psycho-social intervention and medical treatments could be beneficial to a breast cancer patient's increased livelihood.

2.2.2 Psycho-Oncology in Africa

According to Asuzu (2018), Jimmie Holland began laying the foundation for an African Psycho-Oncology organization in the 1990s (Asuzu, 2018). Over the last decade, Sub-Saharan African psychologists, nurses, and oncologists have launched initiatives through organizations and associations to educate patients and other medical professionals on the significance of psychological care in oncology (Amonoo et al., 2023).

The primary association for oncology researchers and physicians in sub-Saharan Africa is called the African Organisation for Research and Training in Cancer (AORTIC) (Amonoo et al., 2023). In West Africa, Nigeria established the Psycho-Oncology Society of Nigeria (POSON) in 2008 with support from AORTIC and the International Psycho-Oncology Society (IPOS) (Travado et al., 2017). Dr. Holland also started the master's program in Psycho-Oncology coursework at the University of Ibadan in Nigeria (Asuzu, 2018). Furthermore, organizations registered with IPOS also exist in Ghana (Amonoo et al., 2023). In East Africa, the Psycho-Oncology Society of Kenya (POSK) was established in Kenya (Travado et al., 2017). Shino (2010) reported that in northern Africa, the first psychosocial oncology centre in Sudan was scheduled to open following psychosocial training of their healthcare professionals. Furthermore, a number of organizations in the southern African region provide patients with a range of psychosocial assistance, such as the Cancer Association of Namibia, the Family Support Centre and Circle of Hope counselling program in Namibia, the Cancer Association of South Africa, and Reach to Recovery (Asuzu, 2019; Shino, 2010). Furthermore, in Yaoundé, Cameroon (central-west Africa), similar initiatives to offer psychosocial and palliative treatment to people with advanced cancer have been conducted (Asuzu, 2019).

These are all illustrations of how Psycho-Oncology is developing in Africa. Amonoo et al. (2023) states that little information is available on the depth of these organizations' work and how successful they are in achieving their objectives and mission. However, their mission statements are similar and centre on education, research, and clinical care improvement.

It is often difficult to find basic cancer intervention in Africa and there is limited access to appropriate therapy, which suggests that many African cancer patients lack resources to address their psychological needs related to cancer (Asuzu, 2019). Shino (2010) has noted that despite the expansion of Psycho-Oncology, its growth in Africa has been slow. One of the major issues confronting Psycho-Oncology in Africa is a lack of suitable resources for psychosocial care and research (Bultz et al., 2015; Grassi & Watson, 2012). Effectively addressing psychological distress is a challenging task in many cancer centres due to the high patient volume and scarcity of healthcare specialists (Shino, 2010). Another challenge is the lack of an established comprehensive cancer management program in African nations (Asuzu, 2019). A study by Sinha et al. (2022) reported that oncology care in Botswana is mainly provided at Nyangabgwe Referral Hospital in Francistown and Princess Marina Hospital in Gaborone, both of which offer surgery and chemotherapy. Furthermore, in the private sector, Gaborone Private Hospital is the only facility offering radiation therapy. Mncwabe et al. (2021) reported that support groups and palliative care services are becoming favourable means of assistance for South Africans living with chronic illnesses including HIV and cancer. In the public and private sectors, patients have access to all forms of treatment, including medicinal, surgical, and radiation therapies (Sinha et al., 2022).

2.2.3 Psycho-Oncology in Namibia

There is a scarcity of research in the field of Psycho-Oncology in Namibia (Mwafufya, 2018). Shino (2010) conducted a study investigating the psychological well-being of women with breast and cervical cancer. Tjiroze's (2013) research focused on the psychological well-being of caregivers of cancer patients. Kangmennaang et al. (2017) investigated the factors that prevent men between the ages of 40-64 years from screening for prostate cancer in Namibia. Salomo's (2015) study investigated the experiences of men who had been diagnosed with prostate cancer in the four northern regions of Namibia. In addition, Mwafufya (2018) conducted a study looking at the psychological distress, anxiety, and depression of men living with prostate cancer in Windhoek. From this study, approximately 32.8% males reported moderate to severe levels of distress, 50% experienced moderate to severe levels of anxiety and 20.3% experienced moderate to severe levels of depression. In comparison to the present thesis, men diagnosed with prostrate cancer had significantly lower levels of depression compared to the women diagnosed with breast cancer (27.7%). However, they did have significantly higher levels of anxiety compared to women with breast cancer (32.6%). While the availability of these studies suggests that the Psycho-Oncology study is taking place in Namibia, much work still needs to be done.

There are also isolated instances of private initiatives to offer psychological support to cancer patients in Namibia. Unihealth, a clinical psychology practice in Windhoek, provides bi-weekly oncology support groups at Dr. A. Bernard May Cancer Care Centre in Windhoek. The Cancer Association of Namibia (CAN) also organizes outreach programs and campaigns to promote clinical awareness and support for cancer patients

through the Circle of Hope psychosocial support centre and walking and running marathons to name a few. It is proposed that Psycho-Oncology should be incorporated into comprehensive treatment regimens for all cancer patients to improve treatment outcomes and the overall quality of life for individuals impacted, particularly in LMICs in which cancer is indisputably on the rise (Mwafufya, 2018; Vanderpuye et al., 2017).

Furthermore, it is noteworthy that Namibia has a limited number of public oncology health facilities that can accommodate patients with various cancer types. According to Mulenga and Mutanga (2021), a few specialized services are offered by the public oncology centre in the north (Oshakati) which include pharmaceutical administration to patients who visit for follow-up and chemotherapy. In addition, Dr. A. Bernard May Cancer Centre in the central part of Namibia (Windhoek) offers most of Namibia's cancer treatment services (Mulenga & Mutanga, 2021). Therefore, the cancer patient must travel to Windhoek to receive treatment, such as chemotherapy and radiation, if necessary. This implies that to receive such oncological care, patients must travel great distances.

2.3 Psychological experiences of breast cancer patients

2.3.1 Overall experiences of breast cancer patients

Breast cancer is seen as a potentially distressing experience that could have significant repercussions on one's physical and emotional wellbeing (Martino et al., 2019). It could lead to a crisis that attempts to overwhelm a person and negatively affects their established coping mechanisms (Milligan, 2022; Romeo et al., 2019). According to Sadock et al. (2015), following a cancer diagnosis, an individual's psychological responses may include denial, anxiety, anger, and guilt. A study by Vos and De Haes (2007) found that approximately 4 to 47% of cancer patients were in denial of their diagnosis. A study by

Fortin et al. (2021) reported that approximately 34% of breast cancer patients had clinically significant anxiety. In addition, a qualitative study by Koçak et al. (2022) found majority of breast cancer survivors in their sample reported some level of anger following their diagnosis. According to a different qualitative study by Austin et al. (2021), most cancer patients reported feelings of guilt and anger towards themselves. Sadock (2015) further suggests that fear of abandonment, loss of independence, death, disfigurement, disability, and disruptions in their relationships, roles, and financial situation are additional psychological responses following a cancer diagnosis.

Healthcare professionals may not be aware of the incidence of anxiety and depression in women with breast cancer, and the conditions often get overlooked (Van Oers, 2021). It is because a cancer patient's physical well-being often takes precedence over their psychosocial well-being (Azubuike et al., 2018; Mwafufya, 2018). According to Van Oers and Schlebusch (2021), anxiety is the most prevalent distressing experience in breast cancer patients. According to a study by Burgess et al. (2005), twice as many women report having depression in the first year following diagnosis compared to women in the general population. The study also revealed that in the year following diagnosis, around 50% of women with early-stage breast cancer experienced anxiety or depression, or both; in the following second, third and fourth year, this percentage decreased to 25%; and in the fifth year, it was 15%. Furthermore, patients with breast cancer are also denoted to exhibit higher levels of suicide ideation and hopelessness than patients with other types of disease (Van Oers & Schlebusch, 2021). A study conducted in Namibia by Shino (2010) reported the following descriptive statistics in breast and cervical cancer patients: 28% distress, 32% anxiety, and 18% depression. According to Sadock et al. (2015),

psychiatrists should thoroughly assess each patient's psychological and physical well-being. They emphasized that family factors such as intrafamily conflicts, abandonment, and fatigue should be given more attention.

2.3.2 Psychological distress and breast cancer

Psychological distress is a common response to receiving a cancer diagnosis and undergoing treatment (Zainal et al., 2007). Ridner (2004) defined psychological distress as an unpleasant emotional state that a person experiences either permanently or temporarily in reaction to a specific stressor or detrimental demand. In research studies, psychological distress is widely used to characterize anxiety or depressive symptoms (Bjerkeset et al., 2020). However, psychological distress includes a number of factors such as harm, terror, perceived inability to manage emotions, grief, changes in emotional state, pain, and expression of discomfort (Berhili et al., 2017; Bjerkset et al., 2020; Ng et al., 2017; Ridner, 2004).

Psychological distress can be a belief on the part of the individual in question that they are unable to cope with a stressor (Ridner, 2004). It can result from a disconnect between one's idealized self and actual circumstances, which ultimately leads to low self-esteem, altered relationships, dependency, and overall ill health (Phoosuwan & Lundberg, 2022; Ridner, 2004). A change in mood from a stable emotional baseline to one marked by anxiety, despair, impatience, anger, and self-deprecation can also be an indication of psychological distress(Massee, 2000).

Thakur et al. (2022) state that body image issues are associated with a woman's identity, sexuality, self-esteem, sense of self, and psychological distress. A breast cancer diagnosis is suggested to have the most detrimental psychological effects on a woman's body image

(Rezaei et al., 2016). According to Kreitler (2019), body image and sexuality are closely associated with the feeling of being a woman. The breast is seen as a symbol of motherhood, sexual appeal, and femininity in most women (Amini-Tehrani et al., 2021; Rezaei et al., 2016). Therefore, losing one's breast or any altercations to the breast can make women question their sexual attractiveness and lower their self-esteem (Kreitler, 2019). Losing one's breasts following a breast cancer surgery could be classified as a traumatic psychological ordeal (Berhili et al., 2019).

Berhili et al. (2019) discovered that patients undergoing a radical mastectomy were more likely to experience psychological distress than patients undergoing a less evasive treatment. According to Sharma and Purkayastha (2017), patients who have undergone radiotherapy and surgery have also reported experiencing psychological distress, sexual dysfunction, and altered body image. However, studies by Syrowatka et al. (2017) and Baqutayan (2012) revealed that radiotherapy treatment had no effect on breast cancer patients' risk of experiencing distress. Chemotherapy entails periods of extensive treatment, frequent hospitalisation, and a range of severe side effects such as baldness, lethargy, nausea, and vomiting (Choi et al., 2014). Alopecia, or hair loss caused by chemotherapy, is regarded as one of the most adverse experiences for a woman with breast cancer (Choi et al., 2014; Lemieux et al., 2008). A study by Konieczny et al. (2020) found that women in partnerships experienced more distress due to hair loss. It could be because a woman's hair is associated with femininity and sensuality, and hair loss could result in body dissatisfaction, low self-esteem, poor self-concept, and poor post-treatment adjustment (Choi et al., 2014; Pierrisnard et al., 2018). According to women who have been diagnosed with breast cancer, the anxiety they feel about their fertility being

threatened during cancer treatment is equivalent to the anxiety they feel about receiving a diagnosis (Miaja et al., 2017). Logan et al. (2019) further stated that fertility-related psychological distress can cause continuous sadness, grief, worry, despair, panic attacks, and seclusion for up to 20 years following a cancer diagnosis. According to Kreitler (2019), premenopausal women are concerned about whether they will still be able to have children after undergoing breast cancer therapy. In addition, they question whether they should have children given the possibility of passing away before their children reach adulthood. They are also genetically liable in this instance, and are concerned about passing the genes to their children.

Advanced stages of breast cancer are also considered predictors of psychological distress (Syrowatka et al., 2017). Fradelos et al. (2017) found that depressive symptoms were more prevalent in women with stage 3 or 4 cancer compared to those in the first stage of cancer. Zainal et al. (2007) suggest that distress can be associated with practical, familial, emotional, and physical problems that are either typical side effects of chemotherapy or reflect the disease's progression.

Zainal et al. (2007) state that cancer patients may find it easier to manage their emotional and familial issues if they receive regular counselling sessions. They further state that formal psycho-oncology services should be established in order to improve cancer patient management. This will enable healthcare providers to collaborate with trained mental health professionals.

2.3.3 Anxiety and breast cancer

Marcques (2020) defines worry as a psychological condition characterized by negative expectations for potential outcomes or occurrences in the future. The majority of the

activity is cognitive and involves thinking about possible consequences, feeling apprehensive, anxious, or dreadful, as well as bodily symptoms such perspiration, stomach tightness, or heart palpitations (Hirai et al., 200; Marques, 2020). According to Hirai et al. (2008), worry is distinct from anxiety even if it is a component of it. Furthermore, in cancer literature, worry refers to the dread of developing cancer (Hirai et al., 2008).

Anxiety is common among cancer patients after significant events such as beginning a new cancer treatment, receiving a recurrence diagnosis, or due to the progression of the disease (Zainal et al., 2007). The most common psychological comorbidities in patients with breast cancer is anxiety (Alagizy et al., 2020; Ng et al., 2017). A new meta-analysis of patients with breast cancer found a 17.9% increase in prevalence (Hashemi et al., 2020). Sadock et al. (2015) defined anxiety as a warning sign that alerts a person to imminent danger and empowers them to confront a threat. Baquatayan (2012) described anxiety as a variety of mental and physical experiences of dread or fear. It is a state of dread over an undesirable occurrence that is about to happen, a state of uncertainty or fear of a current circumstance (Hashemi et al., 2020; Ng et al., 2017). Furthermore, anxiety is an emotion marked by feelings of unfavourable expectation (Baquatayan, 2012).

Van Oers (2021) proposes that anxiety may not always be pathological but under certain conditions it could potentially be maladaptive. Clinical anxiety disorders, according to Marques (2020), arise when anxiety levels substantially impede day-to-day functioning. In addition, the symptoms are severe, persistent and cause significant distress. In such cases, anxiety causes impaired decision-making, impaired physical functioning, delayed return to work, reduced adherence to cancer treatment, and an overall decline in quality of life (Williams et al., 2021). The Diagnostic and Statistical Manual of Mental Disorders,

Fifth Edition (DSM-5) requires the presence of a core set of anxiety symptoms, such as excessive worry, difficulty concentrating, and restlessness, in order to diagnose pathological anxiety (Van Oers, 2021). These symptoms persist or worsen to the extent of impairment in an individual's daily functioning (APA, 2013). The most common anxiety disorders in breast cancer patients include generalized anxiety disorder, and adjustment disorder with anxious mood (Beatty & Kissane, 2017; Tsaras et al., 2018). Van Oers (2021) states that applying the DSM 5 diagnostic classifications to individuals with illness is challenging. However, this is because cancer is always associated with a degree of threat, and it can be challenging to determine whether the level of anxiety is excessive in proportion to the threat that the disease poses.

Anxiety increases following the onset of a cancer diagnosis (Baqutayan, 2012; Hashemi et al., 2020; Tsaras et al., 2018). Women with breast cancer are at risk for anxiety due to a number of variables, including prior history of an anxiety disorder, an early diagnosis, a lack of social support, severe physical symptoms, and ongoing cancer treatments (Tsaras et al., 2018). Anxiety in breast cancer patients can develop in a variety of situations, including undergoing a test, anticipating the results, receiving a diagnosis, beginning treatment, or anticipating a recurrence of their illness (Baqutayan, 2012; Ng et al., 2017). Anxiety affects between 30%-50% of cancer patients before, during, and after therapy (Ng et al., 2017; Williams et al., 2021).

Cancer-related anxiety can affect the quality of life, exacerbate pain perception, disrupt sleep, cause nausea and vomiting, and, in the worst-case scenario, result in mortality (Baqutayan, 2012). The research on the peak anxiety time of breast cancer patients is divided (Baqutayan, 2012). However, a study by Lim et al. (2011) study suggested that

the initial chemotherapy infusion was when women receiving chemotherapy experienced the highest levels of anxiety. They also suggested that anxiety levels tend to be higher following cancer treatments, the include a mastectomy, lumpectomy, chemotherapy or radiotherapy.

Psychologists are encouraged to support breast cancer patients, as well as to assist them in coping with their emotions and challenges through psychotherapy or counselling. Physicians are also urged to be conscious of anxiety symptoms in patients with breast cancer and to take prompt action to reduce these symptoms (Lim et al., 2011).

2.3.4 Depression and breast cancer

Individuals experiencing hardships are more likely to characterize themselves as depressed (APA, 2005). Deep sadness and its forms, including hopelessness, sorrow, dejection, despondency, emptiness, despair, and discouragement, have been identified as essential characteristics of depression (Horwitz et al., 2016). Horwitz et al. (2016) have identified additional related symptoms for depression to include; loss of appetite, insomnia, exhaustion, agitation, restlessness, dread of dying, pessimism, loss of enjoyment or interest in routine activities, and social disengagement.

While there may be similarities between the symptoms of pathological depression, grief and feelings of sadness, there are more criteria to consider before determining whether either condition is a depressive disorder (APA, 2005; Horwitz et al., 2016). Although depressive symptoms eventually lessen with time, a depressive disorder can persist for several weeks, months or even years (APA, 2005). Depressed patients observe clear distinctions between everyday melancholy and the incapacitating effects of clinical depression (APA, 2005).

Depression is often a psychiatric feature of cancer, and it is one of the psychological experiences most studied (Beatty & Kissane, 2017; Pilevarzadeh et al., 2019; Van Oers, 2021). Depression in cancer patients might be considered a normal reaction, a psychiatric condition, or a physical side effect of cancer treatment (Zainal et al., 2007). Although the overall frequency of depression in breast cancer patients is still unknown, previous research found that the prevalence ranges from 3% to 95.9% (Pilevarzadeh et al., 2019), or 15% to 29% (Tang et al., 2022) or 0% to 58% (Tsaras et al., 2018). The various rates could be attributed to several reasons, including the use of different instruments with varying psychometric properties to measure depression, different criteria to mark depression, or different types, stages, and treatment modalities of the cancer populations (Krebber et al., 2014).

A cancer patients' mental health and overall well-being can be negatively impacted by depression (Yu et al., 2022). Following a breast cancer diagnosis, depression is thought to be comparatively higher in the first year (Tsaras et al., 2018; Van Oers, 2021). Depression is thought to be the main cause of suicide globally (Yu et al., 2022). Kulkarni (2022) states that low motivation to comply with treatment and poor patient morale are associated with depression. In addition, it can cause poor survival and increase the risk of self-harm and suicide. According to Yu et al. (2022), depressed breast cancer patients frequently experience feelings of sadness and negativity. Consequently, this may weaken the patient's immune system, reduce treatment compliance, and hasten the progression of the disease.

In breast cancer patients, there are numerous risk factors for depression. Van Oers and Schlebusch (2021) reported that younger age at diagnosis, lack of social support, a history of negative experience related to the disease, recurrence or advanced disease, physical

decline, tumour location, poorly controlled pain are all risk factors for depression in cancer patients. Furthermore, active cancer treatments, specific drug treatments (steroids), body image distress, low self-esteem, and previous psychiatric disorders, particularly a history of depression or suicide attempts are also risk factors for depression in cancer patients (Beatty & Kissane, 2017; Van Oers & Schlebusch, 2021). According to Van Oers and Schlebusch (2021) depressive symptoms and anxiety are widespread among breast cancer patients in South Africa, particularly those with low body image and high levels of stress.

Breast cancer patients are more prone than the general population to suffer from a mental illness, and depression is one of the most prevalent psychological disorder (Yu et al., 2022). Major depressive disorder, dysthymic disorder, adjustment disorder with depressive mood, and mixed depressive and anxious mood disorders are all common depressive disorders that might impact breast cancer patients (Beatty & Kissane, 2017; Fiorentino et al., 2011; Tsaras et al., 2018). According to Sadock et al. (2015), the duration of a major depressive episode is at least 2 weeks. An individual must also exhibit at least five of the following symptoms in order to be diagnosed with a major depressive episode: a depressed mood that lasts for the majority of the day, almost every day; hopelessness; modifications to appetite and weight; modifications in sleep and activity; lack of energy; guilt; difficulties thinking and making decisions; and recurrent thoughts of suicide or death (Sadock et al., 2015).

Individuals diagnosed with breast cancer can experience severe clinical depression for several years after their diagnosis and treatment (Li et al., 2015). Although depression is quite prevalent and affects cancer patients significantly, it is often underdiagnosed and undertreated (Cvetković & Nenadović, 2016; Van Oers & Schlebusch, 2021). This is

possible because sadness and depressive symptoms are considered expected reactions to the disease and its treatment (Van Oers & Schlebusch, 2021). Clinicians may unintentionally overlook somatic indications of depression, such as altered weight, fatigue, loss of appetite, and decreased cognitive function, which are often observed in cancer patients (Kulkarni, 2022).

It is critical to treat and manage symptoms of depression in women diagnosed with breast cancer to enhance their overall well-being (Cvetković & Cvetković, 2017). Patients with cancer who have been diagnosed with significant depression may benefit from a multimodal strategy that incorporates both psychotropic medication and psychological interventions (Rodin et al., 2007). Psychosocial interventions that offer knowledge and support, as well as those that address any combination of emotional, cognitive, and behavioural characteristics, could be beneficial (Rodin et al., 2007).

2.3.5 Suicide ideation and breast cancer

Suicide originates from the Latin word that means self-murderer (Nigussie et al., 2023; Sadock et al., 2015). Sadock et al. (2015) defined suicide as a lethal act when a person plans to die and acts on it. According to Nigussie et al. (2023), suicide is a complex process that begins with suicidal thoughts and progresses through planning, attempting, and completing suicide. Furthermore, some individuals commit suicide without planning while others do plan for an amount of time. Van Oers (2021) described suicide ideation as thoughts associated with suicidal behaviour, such as transient or recurrent feelings of death or ruminating and making plans to end one's life (Van Oers, 2021). It means that suicide ideation can be passive, characterized by an individual's belief that death would

be preferable to living, or active, characterized by a definite plan and want to end one's life (Nigussie et al., 2023).

Suicide is a global public health concern (Lau et al., 2010; Hagezom et al., 2021). Studies by Bachmann (2018), Hagezom et al. (2021) and Nigussie et al. (2023) report that approximately 800,000 suicides are recorded annually, which means that one suicide occurs every 40 seconds. Suicide rates vary from 0.5% to 1.9% in African regions, with the exception of Arabic countries and regions of the eastern Mediterranean (Hagezom et al., 2021). A study by Mars et al. (2014) showed that the number of suicide deaths across most sub-Saharan African nations was 34,000 annually, and men were three times more likely to commit suicide than women. Esther Muinjangue, Namibia's deputy minister of health and social services, reported that the country's suicide rate was among the highest on the African continent (Nakashole, 2023). “According to the World Health Organisation, Namibia’s suicide rate stands at 9.7 per 100 000 people, placing it the highest in Africa,” (Nakashole, 2023, p.1). Nigussie et al. (2023) reported that research conducted in Ethiopia suggests a correlation between a high rate of suicide and severe mental illness, as well as other chronic illnesses such as HIV, epilepsy, diabetes mellitus, TB, and HTN. However, limited research has been done in Africa on suicide among cancer patients, a prevalent issue in Ethiopia. Suicidality outside of mental health or psychiatric settings is underreported even though it is prevalent in both developed and LMICs with chronic medical conditions (Hagezom et al., 2021).

According to a study by Bolton et al. (2015), the only somatic disease that substantially raises the chance of suicide is oncological disease. Cancer patients are a high-risk population for suicide (Ahn et al., 2015; Gaitanidis et al., 2018; Hagezom et al., 2021).

This is because being diagnosed with cancer and receiving treatment can be extremely taxing on a person's body and mind (Kim et al., 2013). Suicide has recently emerged as one of the leading causes of non-cancer mortality among cancer patients (Hagezom et al., 2021). Rates of suicide among cancer patients are marginally higher than the general population (Sadock et al., 2015). According to Aboumrad et al. (2018), suicide is a documented risk factor for patients with some cancers, including breast, lung, and prostate cancer, compared to patients with other cancer types. The risk is apparent immediately after diagnosis and increases following the diagnosis (Aboumrad et al., 2018; Ahn et al., 2015; Choi et al., 2017; Gaitanidis et al., 2018).

Approximately 8% to 17% of cancer patients are estimated to have suicide ideation (Kim et al., 2013). Cancer patients who experience extreme pain are more likely to have suicidal thoughts compared to those who do not (Davidson et al., 2021; Hagezom et al., 2021). Additional risk factors for suicide in cancer patients include stress, anxiety, severe depression, a history of suicide attempts, a history of mental illness, hopelessness, demoralization, poor social support, disease burden, existential regret, low income, poor education, the type of cancer, length and severity of the disease, and declining health (Aboumrad et al., 2018; Choi et al., 2017; Kazlauskiene et al., 2022; Kim et al., 2013; Kulkarni, 2022).

Suicide is more likely among women with breast cancer, 10% to 40% are thought to be contemplating suicide (Van Oers, 2021). In addition, 1 in 10 breast cancer patients report suicidal ideation 1 year after breast cancer surgery (Gaitanidis et al., 2018; Shi et al., 2022). Sociodemographic traits that are associated with suicide ideation and behaviour in individuals with breast cancer include age, race, marital status, stage, low income, poor

education, unemployment, surgical procedures, cancer treatments, loneliness, and scarcity of quality healthcare (Kazlauskiene et al., 2022; Shi et al., 2022). Gaitanidis et al. (2018) systematic review suggests there is a positive correlation between suicide among breast cancer patients and sociodemographic traits such as being single, unmarried, or separated. However, in this review, married patients were more likely to commit suicide than single patients on univariate analysis, but this result was not significant on multivariate analysis. Men with breast cancer are more likely than women with breast cancer to consider suicide, which lends credence to the theory that men are more inclined to commit suicide than females (Gaitanidis et al., 2018; Kazlauskiene et al., 2022). Plausible reasons to explain this include gender differences in societal responsibilities, resiliency, and neurobiological responses to trauma (Kazlauskiene et al., 2022). Furthermore, there is a significant disparity in knowledge between male and female breast cancer, which may make it difficult for the frequently ignored male population to find support groups (Gaitanidis et al., 2018).

Although psycho-social care for individuals diagnosed with cancer is improving globally, it is still inadequate as insufficient concern is given to suicide ideation in cancer patients, which was reported to be a chronic problem (Hagezom et al., 2021; Kazlauskiene et al., 2022). Aboumrad et al. (2018) argued that clinicians are unaware and tend to overlook the relationship between cancer and suicide. Furthermore, research to understand how elements in organizational and health systems, including inadequate screening or inadequately executed procedures, could contribute to cancer-related suicides is limited. To further aid and support cancer patients' care, recommendations for distress screening and treatment should include the fundamentals of suicide screening and risk management

(Davidson et al., 2021). Prioritizing psychosocial support for cancer patients is also essential due to a lack of funding for psycho-oncological care (Kazlauskiene et al., 2022).

2.4 Theoretical framework

2.4.1 Biopsychosocial model

As previously discussed, one of the main areas of research in psycho-oncology is the psychological effects of cancer and treatment on individuals (Holland, 2018). George Engel developed the biopsychosocial model, which maintains that physical health and illness are influenced by biological, psychological, and social variables (Suls & Rothman, 2004; Vögele, 2015). Therefore, rather than being exclusively understood in biological terms, health and disease are best understood as a combination of biological (age, gender, genetics, physical condition), psychological (thoughts, emotions, and feelings), and social factors (social support network, socioeconomic status, cultural beliefs) (Vögele, 2015). The relevance and significance of this model in contemporary medical practice and health psychology have been noted in studies by Halveka et al. (2009), Hong et al. (2022), Lehman et al. (2017), and Perez-Tejada et al. (2019).

The biopsychosocial model of health considers biological, psychological, and societal elements when deciding how to respond to a cancer diagnosis (Kacel et al., 2019). It mainly focuses on the psychosocial components of managing illness in healthcare facilities (Bolton & Gillet, 2019). All findings in this study will be interpreted using Engel's biopsychosocial model to describe levels of psychological distress, anxiety, depression and suicide ideation in breast cancer patients.

The biological factors considered in this study include age, previous history of a mental disorder, stage of cancer and duration since diagnosis. The psychological factors include

history of anxiety, depression and suicide ideation. According to Vögele (2015), pathophysiological effects can result from psychological variables, issues, or diseases. He further states that being diagnosed with a chronic illness may raise the chance of developing a mental illness, particularly if the illness is life-threatening or necessitates major lifestyle modifications. The social factors considered in this study include perceived social support, marital status, employment status, and level of education. According to Pfaendler et al. (2015), social support may have an impact on a patient's capacity to adjust to their condition and its treatment. The onset and progression of a cancer diagnosis may be impacted by the loss or lack of social support (Thomas et al., 2002). Approximately 50% of breast cancer survivors experience isolation or limited social support at some stage after their diagnosis (Perez-Tejada et al., 2019). Usta (2012) suggests that a significant relationship exists between social support and cancer progression is breast cancer patients (Usta, 2012).

2.5 Chapter summary

Chapter two has presented earlier literature regarding the prevalence of breast cancer, the history of Psycho-Oncology globally, in Africa and Namibia, and the impact of psychological distress, anxiety, depression, and suicide ideation in breast cancer patients. Furthermore, it showcases the need for psycho-social support required for individuals diagnosed with cancer, specifically women living with breast cancer. The next chapter discusses the research methodology of the present study, the research procedure, the research design, and the research instruments. The methods of data analysis will also be discussed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three aims to outline the methodologies utilised to achieve the research objectives. This chapter details the research methodology used in this study. It provides an overview of the sample, population, and research methods for the study. This chapter further discusses the various approaches used to conduct this study, the instruments used, the data analysis procedures, and research ethics.

The research methods described in this chapter were used to complete the study's objectives and aims. The primary objective of the research was to investigate the psychological distress, anxiety, depression, and suicide ideation of women living with breast cancer in Windhoek. From the primary objective, the following three-fold objectives were formulated:

- To explore the levels of psychological distress, anxiety, depression, and suicidal ideation among breast cancer patients.
- To describe the relationships between psychological distress, anxiety, depression, and suicidal ideation in breast cancer patients.
- To describe the relationship between sociodemographic variables, psychological distress, anxiety, depression, and suicide ideation in women with breast cancer.

3.2 Research design

This study used a quantitative, correlational, descriptive and cross-sectional research design. Quantitative research uses numerical data that can be statistically analysed to

understand (explain or predict) the phenomena being studied. (Yilmaz, 2013). Quantitative methods are often designed to support generalizations about the phenomenon being studied, therefore, the results can be more objective and precise (Rich et al., 2011).

In a quantitative study, data is gathered through the distribution of questionnaires and is then statistically analysed and interpreted (Creswell, 2014). Due to the non-experimental nature of this study, no variables were altered. This study used questionnaires to collect data. This is evident with the use of three self-report questionnaires and a self-designed socio-demographic questionnaire. This study was also descriptive, correlational and cross-sectional.

A descriptive and correlational research design was used to describe the levels of the variables and the relationships between them. A descriptive design was appropriate for this study since it aimed to describe the levels of psychological distress, anxiety, depression, and suicide ideation in women living with breast cancer and receiving treatment. Descriptive research utilises questionnaires to obtain data (Nassaji, 2015). It also does not require experimental control, which entails randomization or variable manipulation (Heppner et al., 2016). For this study, the researcher distributed questionnaire to collect data. The researcher also did not control factors but merely reported findings.

The correlational design is another nonexperimental research method used to describe and assess the relationship between variables (Creswell, 2014). A correlational research design seeks to determine whether variables covary, or whether there are predictable relationships between measurements of different variables (Beins & McCarthy, 2012).

The limitation of a correlational study is that it cannot assess what variables cause behaviours to occur (Asamoah, 2014).

A cross-sectional study involves the assessment of participants at a specific location (Levin, 2006). The inclusion and exclusion criteria specified for the study were used to select participants. The researcher focused on breast cancer patients receiving treatment in two cancer centres in Windhoek: Dr. A. Bernard May Cancer Care Centre and Namibian Oncology Centre (NOC). The research was conducted at a specific time, there was no manipulation of variables and the researcher was able to investigate several characteristics at the same time (Ogu et al., 2022), for example, age, employment, stage of breast cancer, and education.

3.3 Population

The population for this study was women, diagnosed with breast cancer and receiving treatment at the Dr. A. Bernard May Cancer Centre or the Namibian Oncology Centre in Windhoek during the period of data collection for this study. The latest Namibia National Cancer Registry (NNCR) statistics state that approximately 1579 women were diagnosed with breast cancer between the years 2010 and 2014 (Zietsman et al., 2017). Okyere et al. (2023) suggest that evidence from the NNCR records an average of 549 new cases per year. Dr. A. Bernard May Cancer Care Centre reported a total of 133 women receiving treatment for breast cancer in the year 2022. As of January 2023, and the 22nd of August 2023, a total of 54 women were recorded to be receiving treatment for breast cancer at Dr. A. Bernard May Cancer Care Centre.

3.4 Sample

Non-probability sampling is a technique in which the likelihood of selecting a subject is uncertain, resulting in selection bias in the study (Acharya et al., 2013). Convenience sampling is a non-probability sampling technique (Beins & McCarthy, 2012). It entails selecting participants based on who is most convenient to study; this can occasionally be referred to as an incidental or haphazard sample (Beins & McCarthy, 2012). It also involves collecting information from populations that researchers can easily access and enables cost-effective completion of interviews or response gathering for researchers (Rahi, 2017). Convenience sampling was used as the sample technique in this study. This is because convenience sampling is a population specific, efficient, economical and time-saving method of data collection (Acharya et al. 2013). All participants in this study were chosen in accordance with the inclusion criteria.

The sample for this study was 101 women, in line with sample sizes of similar studies in the region (Mwafufya, 2018; Shino, 2010; Tjiroze, 2013). Furthermore, Delice (2010) suggests a sample size of 100 is suitable for quantitative analysis in survey research. The inclusion criteria were as follows: participants diagnosed with breast cancer and receiving cancer treatment at Dr. A. Bernard May Cancer Centre or NOC at the time of data collection. Additionally, participants were able to give informed consent. The exclusion criteria were as follows: women diagnosed with breast cancer but not receiving cancer treatment at the above-mentioned facilities will be excluded. Potential participants who are judged by the medical personnel as being too ill/unwell physically were not included. Potential participants who were incapable of giving their informed consent (e.g. low intellectual functioning) were excluded.

3.5 Research instruments

In this study, three self-report instruments and a self-created sociodemographic questionnaire were used.

3.5.1 Sociodemographic questionnaire

A self-designed socio-demographic questionnaire was utilized in this study to collect socio-demographic data. The socio-demographic variables included the following data about participants: age, home language, marital status, age at time of diagnosis, and stage of cancer to name a few (see Appendix D).

3.5.2 Hospital Anxiety and Depression Scale (HADS)

Established in 1983, the Hospital Anxiety and Depression Scale (HADS) was developed by Zigmond and Snaith to evaluate the prevalence of anxiety and depression among patients in a non-psychiatric hospital environment (Bjelland et al., 2002). The 14-item HADS scale is used to assess for symptoms of anxiety and depression in individuals receiving healthcare (Zigmond & Snaith, 1983) (see Appendix E). The HADS is divided into two subscales with 7-items on the anxiety subscale (HADS-A) and 7-items on the depression subscale (HADS-D) (Park et al., 2018). To rule out somatoform disorders, the assessment excluded all symptoms of anxiety and depression that were due to physical disabilities (Weay et al., 2016). Symptoms associated with severe psychiatric disorders were also excluded due to their rarity in patients in non-psychiatric settings (Bjelland et al., 2002).

The HADS is a useful tool for screening for depression in patients with severe medical conditions since it concentrates on non-somatic symptoms (Stern, 2014). When used in a hospital medical outpatient clinic, the self-assessment instrument has proven to be reliable

in identifying depressive and anxious symptoms (Zigmond & Snaith, 1983). As a result, overlaps such as impaired concentration due to pain rather than depression can easily be isolated in individual cases. This evaluation of emotional states in an individual differs from regularly used scales that evaluate somatic symptoms of emotional distress and suicidal ideation, such as the Depression Anxiety and Stress Scale (DASS), State-Trait Anxiety Inventory, Beck Anxiety Inventory, Beck Depression Inventory-II, and Hamilton Depression Rating Scale (Barth & Martin, 2005; Julian, 2011; Smarr & Keefer, 2011). The HADS is ideal for use in a non-psychiatric context because it effectively screens for anxiety and depression in patients who have been diagnosed with an illness while excluding bodily symptoms of emotional distress that may be induced by the illness (Annunziata et al., 2019).

The HADS anxiety subscale assesses for symptoms of general anxiety, including worry. The inquiries for anxiety included: “Do you ever feel tensed up?” “Worry a lot?” “Have panic attacks?” “Feel something awful is about to happen?” (Zigmond & Snaith, 1983, p.362). The HADS depression subscale assesses for anhedonia or a loss of pleasure (Lloyd et al., 2023). Five out of the seven items on the depression subscale measure anhedonia (Snaith & Zigmond, 1986). It is because the anhedonic state is perceived to be a central psychopathological symptom of depression (Zigmond & Snaith, 1983). It is most responsive to antidepressant medication and clinically beneficial (Lloyd et al., 2023). The mandate inquiries for depressions included: “Do you take as much interest in things as you used to? “Laugh as readily?” “Do you feel cheerful?” “Feel generally optimistic about the future?”(Zigmond & Snaith, 1983, p.362).

The HADS has the advantage of being brief (14 items), user-friendly, and time-sensitive (Snaith & Zigmond, 1986). Stern (2014) states that the HADS has been translated in different languages and applied in different settings, including clinical practice and community settings. In addition, it can be used to detect the onset (or lack) of psychological issues and to form a preliminary diagnoses. Furthermore, the National Institute for Health and Care Excellence (NICE) supports it as a strategy for detecting depression and anxiety. The HADS has proven to be a reliable tool in detecting anxiety and depressive symptoms in cancer patients (Annunziata et al., 2019). In Namibia, the HADS has been used to screen for depression and anxiety in patients with breast and cervical cancer (Shino, 2010), prostate cancer (Mwafufya, 2018), and caregivers of cancer patients (Tjiroze, 2013).

Although the HADS has advantages, it should be used with caution due to its limitations, particularly when evaluating anxiety and depression (Moulton et al., 2019). Kagee (2023) asserts that there is an inconsistent factor structure in the HADS across samples. Although there are studies that support the two-factor structure of the HADS. Kagee (2023) states that there are others that suggest a one, three or four factor structure. Consequently, presumptions regarding the validity of the instrument are constrained by this unstable factor structure (Kagee, 2023).

Coyne and Van Sonderen (2012) noted discrepancies in the response items of the HADS. For example in item 7 of the HADS "I can sit at ease and feel relaxed," 0 equals definitely and 3 equals not at all. This response key is reversed in comparison to items on the HADS in which 0 marks not at all and 3 marks most of the time (Kagee, 2023). Although the purpose of these language reversals and variable response keys was to mitigate the impacts

of a response style, patients can find them unsettling and are unlikely to notice the changes in item and scoring direction unless they are vigilant (Coyne & Van Sonderen, 2012). This can change the results of the screening tool and lead to erroneous conclusions.

A further HADS concern presented by Coyen and Van Sonderen (2012) is the purposeful avoidance of somatic symptoms such as sleep and appetite disturbances, which when combined may be a reliable sign of depression. Additionally, there are more items on the HADS that are associated to anhedonia than to depression and sadness, which are underrepresented and only represented by the item "I feel cheerful" (rated negatively) (Coyen & Van Sonderen, 2012; Kagee, 2023). There are also items on the HADS, for example, "I feel restless as if I have to be on the move," that are meant to avoid the stigma associated with making explicit references to mental illnesses but are unclear about whether they signify psychopathology or are just typical individual variances in personality (Coyen & Van Sonderen, 2012). In addition, varying cut-off points related to the HADS that validation studies have produced have drawn criticism (Coyne & Van Sonderen, 2012).

Lastly, Maters et al. (2013) additionally expressed that translating the HADS into other languages is hampered by the deliberate use of British vernacular to express anxiety, such as "butterflies in the stomach". In addition, it is significant to note that articles utilizing HADS translations typically do not address this issue, therefore, it generates doubts about the accuracy of the translations.

3.5.3 Emotion Thermometer

The Emotion Thermometer (ET) was designed by Professor Alex J. Mitchell in 2007 as an extension and adaption of the Distress Thermometer (DT) (Licková, et al., 2021). It

assesses different emotional states of a cancer diagnosis, including distress, anxiety, depression, anger, and the need for help (Mitchell, 2010). The ET is a rapid, simple, standardized method for monitoring emotional distress in clinical settings (Licková et al., 2021). Mitchell et al. (2010a) found that the ET had good validity against depression as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and HADS total scores in early cancer.

The ET is an instrument that has thermometers to screen for distress, anxiety, depression, anger, and the need for help (Licková, et al., 2021). For this study, three thermometers (distress, anxiety and depression) will be used to screen for psychological distress, anxiety, and depression(see Appendix F). This study excluded the variable of anger and need for help as the main aim of this study was to explore the psychological experiences that have been commonly reported in oncology populations (Campbell-Enns & Woodgate, 2015; McFarland & Holland, 2016; Savioni et al., 2022). Each thermometer receives a rating on a scale of 0 to 10 (Ng et al., 2017). Patients rate their emotional state during the past week on a scale of 0 (none) to 10 (extreme) (Holland & Bultz, 2007; Jacobsen et al., 2005; Licková, et al., 2021). Each thermometer has a fixed cut-off range of 0-3 (low) and 4-10 (high) (De Jesús et al., 2020; Harju et al., 2019). The total ET score is the sum of each score on the distress, anxiety, and depression thermometers. For the total ET score, fixed cut-offs of ET total >9 (mild), >14 (moderate), and >20 (severe) are used to describe the levels of psychological distress (Cheng et al., 2023). This study's main objective is to assess the most significant and often reported mental health disorders in cancer patients; therefore, the variables of anger and need for help are excluded (Grassi et al., 2015).

The ET has been used in acute and time-constrained clinical settings (Harju et al., 2019). According to Cheng et al. (2022), an earlier validation study of ET in cancer patients indicated that it was a suitable instrument for assessing patients' levels of anxiety, depression, and anger. Additionally, a convergent validity assessment of the scales found a positive and strong correlation between each emotion thermometer and the HADS. Farahani et al. (2019) found that for individuals with cancer, the anxiety and depression thermometers could significantly predict hospital anxiety and depression. Furthermore, distress, anxiety, depression, anger, and need for help had test-retest correlation coefficients of 0.81, 0.83, 0.84, 0.88, and 0.81, respectively. These findings suggest that the thermometers are reliable and appropriate tools for assessing the psychological experiences of individuals with advanced cancer.

The Distress Thermometer (DT) can be described as an ultrashort screening tool that screens for emotional distress (Ko et al., 2018). It is a single question with a thermometer-shaped analogue scale (Harju et al., 2019). The scale for the DT ranges from 0 to 10, with 0 signifying no distress and 10 signifying severe distress (Mitchell, 2010). The cut-off greater than or equal to 4 is considered to be significant (Ng et al., 2017). A value of 4 or 5 suggests mild distress, 6 or 7 denotes considerable distress, and 8 or higher denotes severe distress (Mitchell, 2010).

An important addition to the DT is an issue checklist that identifies possible patient areas of difficulty that are associated with distress (Martinez, 2013). It is called the National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN) problem list. The NCCN problem list consists of 39 plausible causes of distress with

categories including practical, family, physical, emotional, and spiritual/religious issues (Ownby, 2019).

The DT has been used in oncological settings in North Africa, East Asia, and North America to screen for psychological distress (Berhili et al., 2017; Al-Shaaobi et al., 2021; Nguyen et al., 2021; Schubart et al., 2014). The DT has also been used in multiple oncological setting in Namibia. It has been used to screen levels of distress in men with prostrate cancer, women with breast and cervical cancer patients, and cancer caregivers (Mwafufya, 2018; Shino, 2010; Tjiroze, 2013). The ET's design was based on the strengths of the DT's (Harju et al., 2019). According to Kagee (2023), a systematic review conducted by Stewart-Knight et al. (2012) revealed that while certain studies suggest that the DT can be useful for patient assessment, there is uncertainty regarding the true scope of the tool's assessment and its validity. Future research, ought to compare the DT with qualitative interviews wherein service users are asked to indicate the specific concerns that are generating their distress and to assess their level of distress (Kagee, 2023).

Following the development of the ET, Mitchell et al. (2010b) found that the combination of the DT with depression, anger, and need for help was superior than the original DT in terms of specificity which increased by 14% and sensitivity that remained stable. However, some of the limitations of the ET includes its simplicity and subjectivity to rate emotions. Considering the complexity and diversity of emotions, rating them on a scale of 1 to 10 could oversimplify the experience (Berrios, 2019).In addition the ET offers an emotional period of one week at a time. It overlooks alterations or oscillations throughout time, which is what gives emotions their complexity (Berrios, 2019). Moreover, the ET is vulnerable to response bias since some people may have overreported or underreported

their emotions, which would have affected the assessment's accuracy (Harju et al., 2019; Silva et al., 2023).

3.5.4 Columbia–Suicide Severity Rating Scale (C-SSRS)

Researchers from the Universities of Pittsburgh, Pennsylvania, and Columbia University created the Columbia–Suicide Severity Rating Scale (C-SSRS) (Thom et al., 2020). According to Interian et al. (2018), the C-SSRS was developed as a single tool to evaluate suicidal ideation and behaviour. Responses for suicide ideation and suicide behaviour can be assessed and monitored separately (Thom et al., 2020). The inter-rater agreement, convergent validity, divergent validity, internal consistency and sensitivity and specificity are psychometric properties that have all been examined in psychometric studies of the C-SSRS (Brown et al., 2015; Mundt et al., 2010; Posner et al., 2011; Youngstrom et al., 2015). Therefore, using a standardized tool, like the C-SSRS, to thoroughly assess suicidal ideation and behaviour allows researchers and clinicians to compare data across clinical and research groups and track trends over time. (Posner et al., 2011).

Posner et al. (2011) state that suicidal ideation and behaviour have historically been viewed as a one-dimensional framework in which passive thoughts, active intent, and behaviour continuously exist. However, the C-SSRS makes a distinction between suicide ideation and suicidal behaviour. According to Posner et al. (2011), the C-SSRS assesses four constructs: suicide ideation, the intensity of suicide ideation, suicidal behaviour, and lethality of the suicide attempt. The first construct, suicide ideation, is measured using a 5-point ordinal scale that ranges from 1 (want to die) to 5 (suicidal intent with plan), representing five different types of ideation of increasing intensity (Al-Halabi et al., 2016). Nilsson et al. (2013) reported that each item has a binary response (yes/no). Additionally,

suicide ideation is present when "yes" is given to any of the five suicide ideation items. The score for each item is 1, and the maximum range of total scores is between 1 to 5. Furthermore, a score of 0 is assigned if no ideation is present, and any score above 0 is significant and indicates the need for mental health intervention. According to Elfil et al. (2019), for the construct of suicide ideation in the C-SSRS, responding "yes" to item 1 (wish to die) and "no" to items 2 (non-specific active suicidal thoughts) and 3 (active suicidal thoughts with no plan or intent to act) is indicative of passive suicide ideation. Additionally, stating "yes" to items 2 or 3 is indicative of active suicide ideation. Furthermore, stating "yes" to items 4 (active suicide ideation with some intent to act without a specific plan) or 5 (active suicide ideation with a specific plan and intent) is indicative of severe suicide ideation and criteria for further psychiatric evaluation. In such cases, patients are referred immediately to a mental health practitioner or the emergency room (Nilsson et al., 2013).

The second construct assesses the intensity of suicide ideation and has five items: frequency, duration, controllability, deterrents, and reason for suicide ideation (Posner et al., 2011). Each item for this construct is assessed on a 5-point ordinal scale and the range of total scores is between 0 to 25 (Nilsson et al., 2013). The intensity level is 0 if the patient does not have any suicidal ideation (Nilsson et al., 2013). The third construct assesses suicidal behaviour, it is evaluated on a nominal scale, and it takes into account behaviour that does not entail self-harm as well as anticipatory, actual, discontinued, and thwarted attempts at suicide (Al-Halabi et al., 2016). The fourth construct assesses the lethality of the suicidal attempt which rates the effectiveness of actual attempts (Posner et al., 2011). Actual lethality is evaluated on a 6-point ordinal scale, and if actual lethality is

zero, the potential lethality of attempts is evaluated on a 3-point ordinal scale (Al-Halabi et al., 2016). The scoring for the suicidal behaviour lethality rating is directly taken from the C-SSRS (Nilsson et al., 2013). Suicidal behaviour is not one of the variables being investigated in this study. Therefore, the constructs for suicide ideation and intensity of suicide ideation on the C-SSRS will only be utilized in this context (see Appendix G).

The C-SSRS was endorsed as the gold standard for assessing suicidal ideation and behaviour in therapeutic studies by the Food and Drug Administration (FDA) in 2012 (Thom et al., 2020). The C-SSRS has been used in prior studies to assess suicide risk and suicidal ideation in individuals with chronic illnesses. A study by Elfil et al. (2019) used the C-SSRS to determine suicide risk and lifetime suicidal ideation in Parkinson's disease (PD) patients. Lucas et al. (2015) used the C-SSRS to assess suicide ideation and suicidal behaviours among paediatric brain tumour patients and their mothers. There is also indication that the C-SSRS is being used in studies conducted in Africa. A study by Negussie et al. (2019) used the C-SSRS to assess suicidal ideation and attempts among alcohol use disorder patients attending the addiction clinic at Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia. Bantjes et al. (2023) used the C-SSRS to assess suicide ideation in a study on COVID-19 and common mental disorders among university students in South Africa.

According to Thom et al. (2020), some of the limitation of the C-SSRS include a proclivity to neglect different combinations of suicide ideation and behaviour, inadequate administration instructions, and ambiguous phrasing. However, the FDA considers that the C-SSRS should serve as the benchmark against which all subsequent instruments

should be judged, despite the lack of research on its cross-cultural validity (Lucas et al., 2015).

3.6 Procedures

The researcher obtained ethical clearance from the University of Namibia Research Ethics Committee (UREC) (see Appendix A). Ethical clearance and approval to carry out this study was also obtained from the Ministry of Health and Social Services (MoHSS)'s research ethics committee (see Appendix B). Following this, the researcher approached the medical superintendent of Windhoek Central Hospital to obtain permission to collect data at Dr. A. Bernard May Cancer Care Centre. The researcher approached the oncology social worker at NOC to obtain permission from the hospital's manager to begin data collection at their facility.

Once permission to collect data was granted, the researcher made appointments with the heads of medical oncology and radiation oncology departments at Dr. A. Bernard May Cancer Care study to explain the study. The researcher also made another appointment with the oncology social worker at NOC to explain the study. Both facilities were notified when the researcher received ethical clearance from the research ethics committees at UNAM and MoHSS. The objectives, the procedures, and inclusion and exclusion criteria for the study were explained. The research instruments were also shared with both centres. After this appointment, similar appointments were made with other oncology staff members (i.e. oncologists, medical doctors, and nurses) in both centres to explain the objectives and procedures of the study. The oncology personnel contacted were requested to help the researcher select possible study participants based on the inclusion criteria.

Potential participants for the study were identified and referred to the researcher by the oncologist, physician, or nurse at Dr. A. Bernard Cancer Care Centre and the oncology social worker at NOC. The researcher explained the study to the potential participants. The information letter (which outlines aspects such as the research aims, procedures, and any potential risks of the research and dissemination of research findings) was shared with the potential participants (See Appendix C). They were additionally assured that there would be no consequences if they decided to withdraw from partaking in the study at any given moment. Furthermore, participants were informed that if they required a translator, one would be made available as long as they were comfortable and gave verbal and written consent.

Following the provision of written consent, participants were requested to complete the questionnaires. The researcher gave each participant a questionnaire to complete during individual interviews. The researcher was present with each participant as they completed the surveys, in case they required assistance. Every questionnaire was completed entirely on the same day's interview with the researcher. These interviews were conducted either in the waiting room, the doctor's board room, or the doctor's office at Dr A. Bernard May Cancer Care Centre. At NOC, most participants completed the research instruments in the oncology social worker's office.

3.7 Data analysis

The Statistical Package for Social Sciences (SPSS) version 29 was used to analyse the data in order to meet the study's objectives. The levels of psychological distress, anxiety, depression, and suicide ideation were described through descriptive statistics, that is, means, standard deviations, range of scores, and frequencies (Creswell, 2014). The

researcher utilized Pearson's (r) correlation coefficient to determine the relationships between the study's variables.

3.8 Research ethics

The researcher adhered to the ethical standards of informed consent, confidentiality, and privacy, as well as the recognition of the right of participants to withdraw. The researcher complied with the ethical principles of justice, loyalty, beneficence, autonomy respect, and nonmaleficence undertaking the following.

Beneficence requires the researcher to follow two general rules: to do no harm and to maximize possible benefits that help participants and minimize harm to the participants (Ramutumbu, 2021). The researcher ensured that participants were fully informed about the study and consent was obtained before they answered the questionnaires. Justice in the research referred to the fair selection and treatment of research participants. The first step in ensuring justice in research is to choose participants primarily on the basis of study needs, not convenience (Society for Implementation Science in Nutrition, 2018). The study's specified inclusion and exclusion criteria for research participants were followed to guarantee equal opportunities for participants.

The researcher received ethical clearance from the University of Namibia Research Ethics Committee (UREC) before conducting the study. Ethical approval to conduct this study was also obtained from the research committee of the Ministry of Health and Social Services (MoHSS). Permission to collect data onsite, at Dr. A. Bernard May Cancer Care Centre was obtained by the Office of the Senior Medical Superintendent of Windhoek Central Hospital. Permission to collect data at NOC was granted by the oncology social worker, following her consultation with the hospital manager of NOC. Thereafter, the

researcher met with the heads of department of the medical oncology departments at Dr A. Bernard May Cancer Care Centre and the oncology social worker at NOC. The objectives of the study were first discussed before they helped the researcher identify possible candidates. Only after this were participants approached.

The study's objectives were explained to all participants prior to their filling out any questionnaires. Participants had to complete a written consent form attesting to their comprehension of the study's purpose and willingness to participate. The study's participants were made aware that their participation was completely voluntary and that they could withdraw at any point during the study. Participants were informed that if they wanted a translator, one would be provided to them as long as they felt comfortable and gave their consent. Verbal and written consent were secured by signing the consent form. For the few participants that required a translator, the translators used were chosen by that participant. In this regard, the researcher respected the participant’s autonomy. In these cases, the translator was often a close family member, the translator they used for their doctor consultations, and in the case of NOC, the oncology social worker.

Participants' responses remained confidential as all the data collected for this study was analysed by the researcher. All questionnaires were filled out anonymously and secured in a lockable filing cabinet. The questionnaires will be stored for no longer than five years before they are shredded. The researcher will disseminate the research findings through a thesis and journal publications. A research report will be provided to the MoHSS, Dr. A. Bernard May Cancer Care Centre, and NOC. The purpose of this is to generate awareness of the psychological experiences of breast cancer patients and to develop appropriate psycho-social interventions. The participants' identities will not be revealed.

All research participants were provided with names and contact details of counselling facilities of psychologists and social workers should they need counselling. This was stated in the informed consent form. The list included mental health and counselling services in Windhoek. The facilities were divided into three categories; free, require a subsidized cost, or require medical aid/cash payments. The researcher's supervisor (Dr. Shino) who is a registered clinical psychologist offered to facilitate immediate supportive counselling for participants who might be distressed.

3.9 Chapter summary

This chapter provided an overview of the rationale for the research methods used for collecting and analysing data for this study. It described the study design, followed by how the sample and participants were selected for this study. This chapter also includes a description of the research tools used for data collection and the procedure the researcher followed to conduct this study. The chapter included a presentation of the statistical analysis employed and concluded with a presentation of research ethics applied to this study.

CHAPTER 4

RESULTS

4.1 Introduction

The objective of chapter four is to present the results of the study. It focuses on presenting a socio-demographic description of the research sample. The four variables namely; psychological distress, anxiety, depression, and suicide ideation are explored in this study. These four variables were quantified and obtained by using the Hospital Anxiety and Depression Scale (HADS), the Emotion Thermometer (ET), and the Colombia Suicide Severity Rating Scale (C-SSRS). An outline of the reliability of the HADS, ET, and C-SSRS is also presented. Furthermore, this chapter discusses the correlations between the four variables and the socio-demographic characteristics of the study's samples.

4.2 Sociodemographic description of study sample

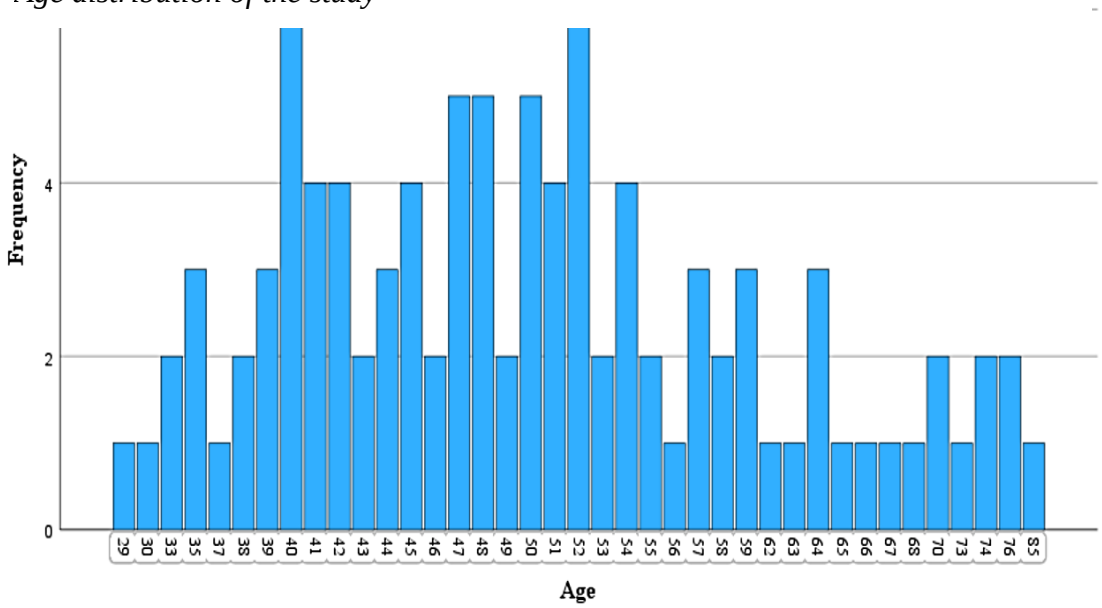
The sample for this study consisted of 101 women living with breast cancer and receiving treatment at Dr. A. Bernard May Cancer Care Centre and at Namibian Oncology Centre (NOC) between the 4th of September 2023 to the 5th of October 2023 (n=101). Of this sample size, 59 women were receiving treatment at Dr. A. Bernard May Cancer Care Centre, 40 were receiving treatment at the NOC in Eros and two were receiving treatment at the NOC in Khomasdal.

The sample's mean age was 50.36 years (SD: 11.11). The oldest participant in this study was 85 years old. The youngest participant was 29 years old (see Figure 1). The youngest age at which a participant was diagnosed with breast cancer was 25 years. The oldest age at which a participant was diagnosed with breast cancer was 84 years. The mean age at

which women received their breast cancer diagnosis for this study was 47. 11 years (SD: 11.42) (see Figure 2).

Figure 1

Age distribution of the study



Of the participants, 6.9% of the sample reported having stage 0 cancer, 9.9% reported having stage 1 cancer, 17.8 % reported having stage 2 cancer, 11.9 % reported having stage 3 cancer, 26.7% reported having stage 4 cancer and 26.7% did not know the current stage of their cancer (see Figure 3). The most common home language of the sample was Afrikaans (33.7%) followed by Damara/Nama (19.8%). Setswana and German were the least common home languages (1% and 2 %, respectively) (see Figure 4).

Figure 2

Age distribution of breast cancer diagnosis

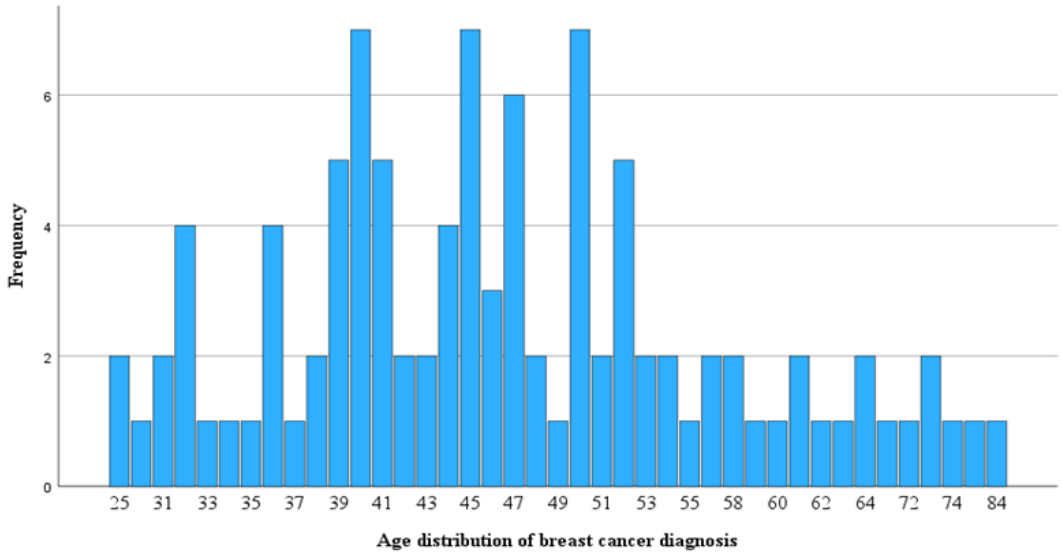


Figure 3

Distribution of the stages of breast cancer for the study

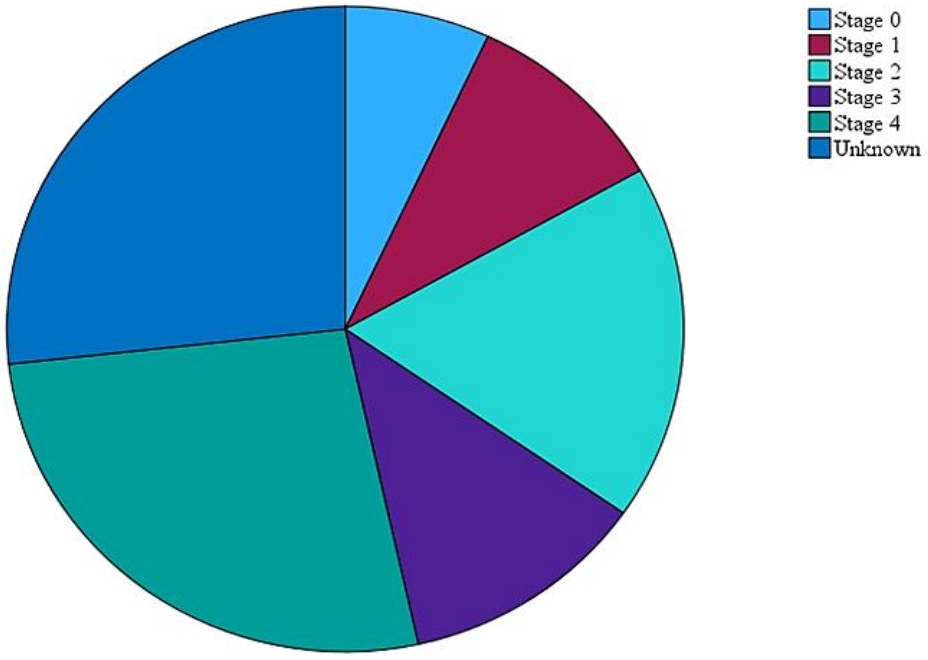
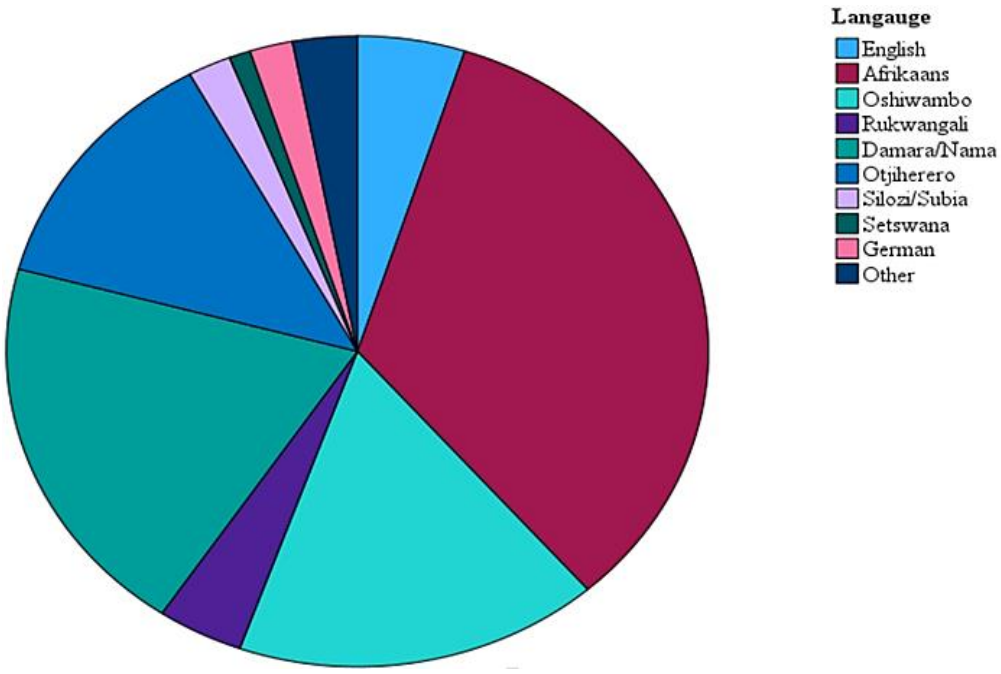


Figure 4

Distribution of home languages in the study sample



The areas of residency of the participants are depicted in Figure 5. The majority of the participants resided in the Khomas region (39.6%). The second majority of participants (12.9%) lived in the Erongo region. The third majority of participants resided in Hardap and Omaheke (9.9% of participants each). The least represented regions were the Kavango West and Kunene regions where 1.0% of participants, respectively, resided there. Approximately 1% of participants lived outside of Namibia. In the study, it was noted as Other. It represented women who resided in Angola.

In this study, 47.5% of the respondents were single, 38.6% were married, 6.9% were divorced and 6.9% were widowers. In addition, 95% of participants reported that they had one or more children, whereas 5% reported that they had none. When asked to rate their perceived social support, 47.7% of the women rated it as excellent, 35.6% as good, 11.9% as satisfactory and 5.0% as poor (see Figure 6).

Figure 5

Place of residency of participants in the study sample

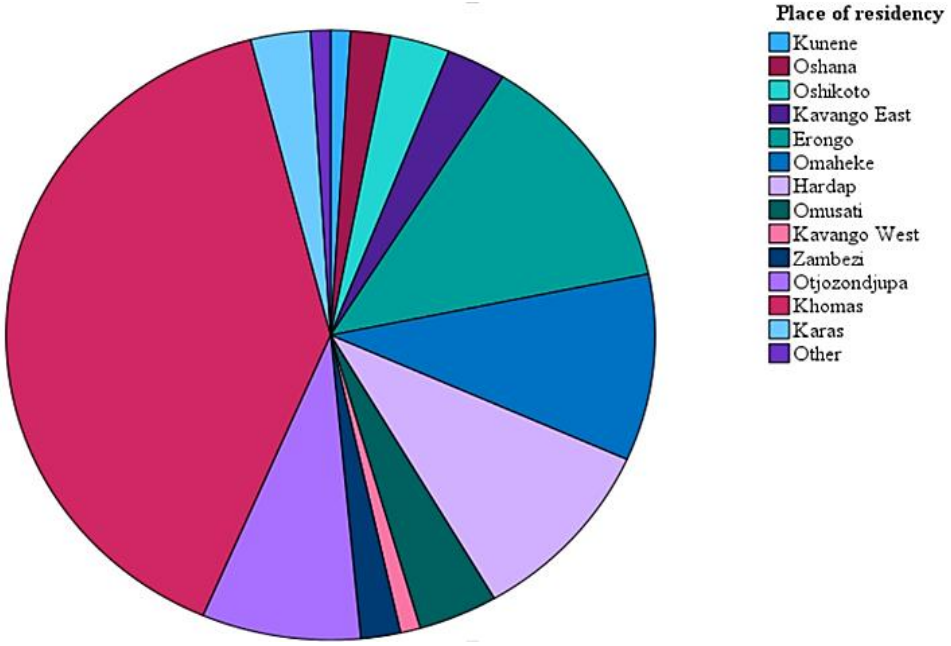
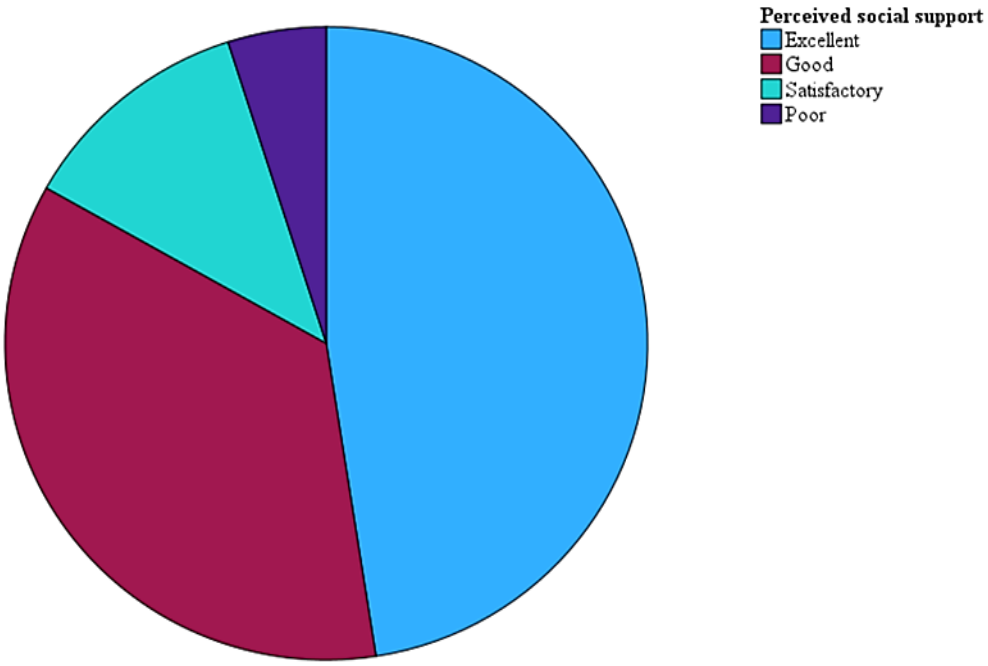


Figure 6

Perceived social support of the study sample



Secondary education was the highest level of education most accounted for in participant responses (65.3%). This was followed by 25.7% of participants who reported tertiary education as their highest level of education. Approximately 5.0% of participants had a primary education, and 4.0% had no formal education. The majority of participants were unemployed (42.6%). This was followed by 34.7% of women who reported being employed full-time. In addition, 5.9% were employed on a part-time basis and 16.8% were retired. Most of the participants (89.1%) were not on medication to treat depression or anxiety. Approximately, 10.9% reported that they were on medication to treat depression and anxiety.

4.3 Reliability of the HADS and subscale

Reliability refers to the internal consistency of a scale (Christensen et al., 2020). Christensen et al. (2020) state that internal consistency reliability assesses how closely an instrument's items are related to each other and can measure the same construct. In addition, internal consistency reliability is evaluated by calculating Cronbach's alpha. A scale's Cronbach's alpha coefficient should ideally be greater than 0.70 (Pallant, 2011). Good internal consistency is defined as a Cronbach alpha coefficient between 0.70 to 0.95 (Christensen et al., 2020). Cronbach's alpha values are significantly impacted by the number of elements on a scale (Pallant, 2011). Short scales, or scales with fewer than 10 items, frequently have Cronbach's alpha values that are quite low, like 0.50 (Pallant, 2011). The Cronbach's alpha (α) coefficients for the total HADS scale in this study were high and acceptable. The reliability for the total HADS scale was 0.85. The anxiety subscale of the HADS (HADS-A) had a reliability of 0.77 and the depression subscale

(HADS-D) had a reliability of 0.75. The depression and anxiety subscales each had strong and acceptable Cronbach's alpha (α) coefficients (see Table 1).

Table 1

Reliability of the total HADS, anxiety subscale and depression subscale

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Total HADS scale	.851	.854	14
HADS-A	.777	.781	7
HADS-D	.754	.763	7

4.4 Descriptive statistics for the HADS and subscales

The descriptive statistics for the HADS and subscales are summarised in Table 2. The mean score for the total HADS scale was 11.27 (SD: 7.41). The median score was 10.00. The highest overall score recorded for the HADS in this study was 36. The lowest score recorded was a score of 0.

The HADS-A and HADS-D were scored using Zigmond and Snaith's (1983) method. A score of 7 or less was a non-case. Cases with scores between 8 and 10 were considered borderline, while those with scores greater than 11 were considered abnormal. For the subscale of anxiety (HADS-A), the mean was 6.32 (SD: 4.23). The highest score recorded for this subscale was 18, and the lowest score was 0. The median score was 5.00. Approximately, 16.8% of the participants had borderline cases of anxiety, and 15.8% had

abnormal cases of anxiety. In addition, 67.3% of the participants were non-cases for anxiety (see Figure 7).

For the subscale of depression, the mean score was 4.94 (SD: 3.96). The median score was 4.00. The maximum score recorded for this subscale was 18 and the minimum score was 14. Approximately, 20.8% and 6.9% of the participants had a borderline case or abnormal case of depression, respectively. Approximately 72.3% of the participants were non-cases for depression (see Figure 8).

Table 2

Descriptive statistics for the HADS and subscales

		HADS	HADS-A	HADS-D
N	Valid	101	101	101
	Missing	0	0	0
Mean		11.27	6.32	4.94
Median		10.00	5.00	4.00
Mode		4	4	1
Std. Deviation		7.415	4.231	3.969
Range		36	18	18
Minimum		0	0	0
Maximum		36	18	18

Table 3 shows the overall performance of the HADS. Psychological distress was defined in this study as a total HADS score of 15 or above. This was based on previous studies that used a similar cut-off score (Shino, 2010, Mwafufya, 2018). Approximately, 30.7% of the participants obtained scores above the cut-off. Using 8 as a cut-off score to indicate

the significant levels of anxiety (Zigmond & Snaith, 1983), 32.6% of the participants obtained a score above the case criterion. Using 8 as a cut-off score to indicate the significant levels of depression (Zigmond & Snaith, 1983), approximately 27.7 % of the women scored above the case criterion.

Figure 7

Anxiety levels of women living with breast cancer and receiving treatment

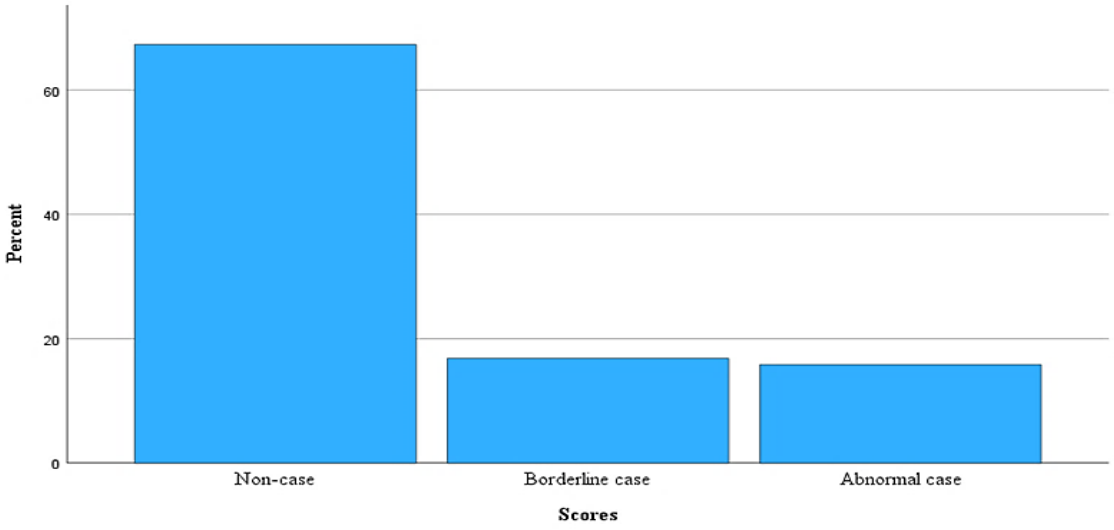


Figure 8

Depression levels of women living with breast cancer and receiving treatment

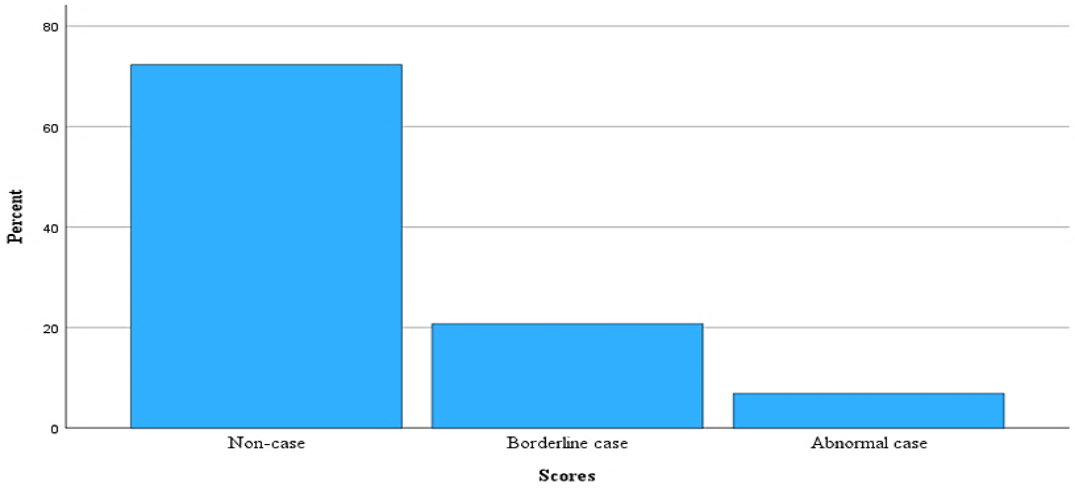


Table 3

Performance on the Hospital Anxiety and Depression Scale

Variables	Results	
	N=101	%
Above HADS-A cut-off (≥ 8)	33	32.6
Below HADS-A cut-off (<8)	68	67.3
Above HADS-D cut-off (≥ 8)	28	27.7
Below HADS-D cut-off (<8)	73	72.3
Above total HADS score cut-off (≥ 15)	31	30.7
Below total HADS score cut-off (<15)	70	60.3

4.5 Reliability of the ET

The reliability for the ET was measured using Cronbach's alpha. The total reliability for the ET was 0.87, which is high and acceptable. For this study the Cronbach's alpha (α) coefficient for the ET was high and acceptable (see Table 4).

Table 4

Reliability of the Emotion Thermometer (ET)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.873	3

4.6 Descriptive statistics for the ET and individual thermometers

Table 5 summarizes the descriptive statistics for the ET. The maximum combined score for the three thermometers is 30. The mean score for the total ET was 10.15 (SD: 8.02). A maximum score of 30 out of a possible 30 was recorded. The lowest score recorded was a score of 0.

For the Distress Thermometer (DT), the mean score was 3.86 (SD: 2.72). The maximum score recorded was 10 out of a possible 10, and the minimum score was 0. For the anxiety thermometer, the mean score was 3.62 (SD: 3.25). The highest score recorded on this thermometer was 10 out of a possible 10, and the lowest was 0. The depression thermometer had a mean of 2.83 (SD: 3.04). The maximum score recorded was 10 out of a possible 10, and the minimum score was 0.

The study by Cheng et al. (2023) served as the basis for the fixed cut-off scores for the total ET score. A total ET score over 9 indicated mild psychological distress, over 14 indicated moderate psychological distress and over 20 indicated severe psychological distress. Approximately 17.8% of participants had mild psychological distress, 16.8% of participants had moderate psychological distress, and 12.9% had severe psychological distress (see Figure 9). The remaining 52.9% of participants had minimal to no psychological distress. For the DT, anxiety thermometer, and depression thermometer, clinically significant distress, anxiety, and depression were marked by a cut-off score of 4 or higher. This method has been employed in numerous studies (Cheng et al., 2023; Grassi et al., 2015; Mwafufya., 2018; Shino, 2010). Approximately 51.5% of participants had significant levels of distress. Approximately 49.5% of participants had significant levels of anxiety. Approximately 33.7% of participants had significant levels of depression(see Table 6).

Table 5

Descriptive statistics for Emotion Thermometers

		Total ET Score	Distress Thermometer	Anxiety Thermometer	Depression Thermometer
N	Valid	101	101	101	101
	Missing	0	0	0	0
Mean		10.15	3.86	3.62	2.83
Median		8.00	4.00	3.00	2.00
Mode		0[a]	3	0	0
Std. Deviation		8.023	2.720	3.252	3.043
Range		30	10	10	10
Minimum		0	0	0	0
Maximum		30	10	10	10

a. Multiple modes exist. The smallest value is shown

Figure 9

Psychological distress levels from the total ET score

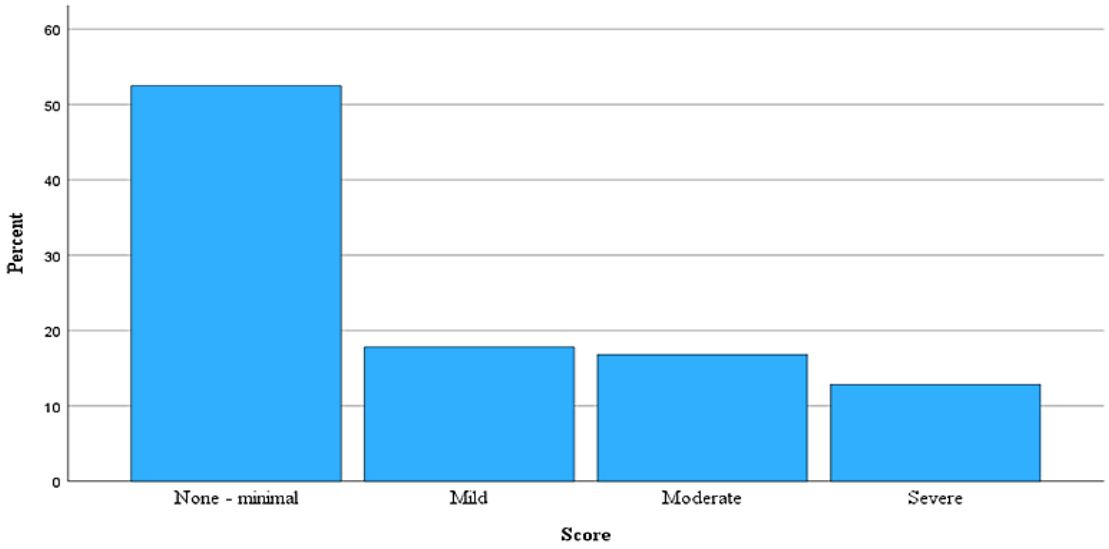


Table 6

Performance on the Emotion Thermometer

Variables	Results	
	N=101	%
Above Distress T cut-off (≥ 4)	52	51.5
Below Distress T cut-off (<4)	49	48.5
Above Anxiety T cut-off (≥ 4)	50	49.5
Below Anxiety T cut-off (<4)	51	50.5
Above Depression T cut-off (≥ 4)	34	33.7
Below Depression T cut-off (<4)	67	66.3

4.7 Reliability of the C-SSRS and subscales

Cronbach's alpha was used to determine the reliability of the C-SSRS. The construct for suicide ideation on the C-SSRS had a Cronbach's alpha (α) coefficient of 0.66, which is good and acceptable. The construct for intensity of suicide ideation on the C-SSRS had a Cronbach's alpha (α) coefficient reliability of 0.91, which is very high and acceptable (see Table 7).

Table 7

Reliability of the C-SSRS suicide construct and intensity of suicide ideation construct

C-SSRS constructs	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Suicide ideation	.664	.700	4
Intensity of suicide ideation	.913	.950	5

4.8 Descriptive statistics for the C-SSRS and individual constructs

The mean score for the construct of suicide ideation on the C-SSRS was 0.21(SD: 0.62). The maximum score from the five items on the construct of suicide ideation is 5. The highest score recorded to suggest the presence of suicide ideation in this study was 3. The lowest score recorded was 0. The mean score for the construct of the intensity of suicide ideation was 0.96 (SD: 2.90). The maximum score from the five items on the construct the intensity of suicide ideation is 25. The highest score recorded for intensity of suicide ideation was 19, and the lowest score recorded was 0 (see Table 8).

Table 8

Descriptive statistics for the C-SSRS and subscales

		Suicide Ideation	Intensity of Ideation
N	Valid	101	101
	Missing	0	0
Mean		.21	.96
Median		.00	.00
Mode		0	0
Std. Deviation		.622	2.901
Range		3	19
Minimum		0	0
Maximum		3	19

The performance on the C-SSRS is summarised in Table 9. The C-SSRS suicide ideation construct was rated using the Elfil et al. (2019) scoring technique. Any score above 0 was significant and indicated that suicide ideation was present. Scores above the case threshold

(0) were present in 12.9% of the participants, which suggested that suicide ideation was present. Approximately 7.9% of the participants had passive suicide ideation. Approximately 5.0% of the participants had active suicide ideation. Approximately, 1.0% of participants had severe suicide ideation. Additionally, 11.9% of the participants who had suicidal thoughts also admitted that the deterrents (family, religion, pain of death) prevented them from attempting suicide.

Table 9

Performance on the Colombia Suicide Severity Rating Scale

Variables	Results	
	N=101	%
Suicide ideation present	13	12.9
Suicide ideation not present	88	87.1
Passive suicide ideation	8	7.9
Passive suicide ideation not present	93	92.1
Active suicide ideation	5	5.0
Active suicide ideation not present	96	95.0
Severe suicide ideation	1	1.0
Severe suicide ideation not present	100	99.0

4.9 Correlations between the total HADS and subscales

The researcher explored the correlation between the HADS and its subscales. This was to determine the strength and direction of the linear relationship between the total HADS score and anxiety, the total HADS score and depression, and the relationship between

anxiety (HADS-A) and depression (HADS-D). The relationship between each of the variables was explored using the Pearson correlation coefficient.

A statistical summary of the correlation between these variables is presented in Table 10. The relationship between the total HADS score and the HADS-A was a significant, very strong, positive correlation; $r = 0.91$, $n = 101$, $p < 0.01$. The coefficient of determination for this relationship was 82.8%.

A significant, very strong, positive correlation existed between the total HADS score and the HADS-D; $r = 0.90$, $n = 101$, $p < 0.01$. The coefficient of determination for this relationship was 81.0%.

The relationship between anxiety (on the HADS-A) and depression (on the HADS-D) was a significant, strong, positive correlation; $r=0.64$, $n=101$, $p<0.01$. The coefficient of determination for this relationship was 41.0%.

Table 10

Correlations between the HADS and subscales

		HADS-A	HADS-D
HADS	Pearson Correlation	.912**	.897**
	Sig. (2-tailed)	<.001	<.001
	N	101	101
HADS-A	Pearson Correlation		.637**
	Sig. (2-tailed)		<.001
	N		101

**. Correlation is significant at the 0.01 level (2-tailed).

4.10 Correlations between the total ET and individual thermometers

The relationship between the total ET score and the distress thermometer (DT), the total ET score and the anxiety thermometer, and the total ET score and the depression thermometer were each explored using the Pearson correlation coefficient. A summary of the descriptive statistics is presented in Table 11.

The correlation between the total ET score and the distress thermometer was a significant, very strong, positive correlation; $r = 0.86$, $n = 101$, $p < 0.01$. The coefficient of determination for the two variables was 74.0%.

The correlation between the ET total score and the anxiety thermometer was a significant, very strong, positive correlation; $r = 0.88$, $n = 101$, $p < 0.01$. The coefficient of determination for the two variables was 77.4%.

The correlation between the total ET score and the depression thermometer was a significant, very strong, positive correlation; $r = 0.90$, $n = 101$, $p < 0.01$. The coefficient of determination for the two variables was 81.0%.

Table 11

Correlations between the total ET and individual thermometers

		Distress Thermometer	Anxiety Thermometer	Depression Thermometer
Total ET score	Pearson Correlation	.863**	.882**	.898**
	Sig. (2-tailed)	<.001	<.001	<.001
	N	101	101	101

**. Correlation is significant at the 0.01 level (2-tailed).

4.11 Correlations between the constructs of the C-SSRS

A significant, very strong, positive correlation existed between the construct of suicide ideation and the construct of the intensity of suicide ideation on the C-SSRS; r =0.77, n=101, p<0.01 (see Table 12). The coefficient of determination for this relationship was 59.3%.

Table 12

Correlations between suicide ideation and intensity of ideation

		C-SSRS Suicide Ideation	C-SSRS Intensity of Ideation
C-SSRS Suicide Ideation	Pearson Correlation		.770**
	Sig. (2-tailed)		<.001
	N		101

**. Correlation is significant at the 0.01 level (2-tailed).

4.12 Correlations between the HADS and ET

The correlation statistics between the HADS and the ET are summarised in Table 13. The relationship between the total HADS score and the total ET score proved to be a significant, very strong, positive correlation; r = 0.71, n = 101, p < 0.01. The coefficient of determination for the two variables was 50.4%.

The correlation between the total HADS score and the ET distress thermometer (DT) was a significant, strong, and positive correlation; r = 0.66, n = 101, p < 0.01. The coefficient of determination for the two variables was 43.6%.

The correlation between the total HADS score and the ET anxiety thermometer was a significant, strong, and positive correlation; $r = 0.63$, $n = 101$, $p < 0.01$. The coefficient of determination was 39.7%.

The relationship between anxiety (measured by the HADS-A) and the total ET score was a significant, very strong, positive correlation; $r = 0.72$, $n = 101$, $p < 0.01$. The coefficient of determination was 51.8%.

The correlation between anxiety (measured by the HADS-A) and distress (DT) proved to be a significant, strong, positive correlation; $r = 0.65$, $n = 101$, $p < 0.01$. The coefficient of determination was 42.3%.

Anxiety (measured by the HADS-A) and the ET anxiety thermometer had a significant, strong, positive connection; $r = 0.67$, $n = 101$, $p < 0.01$. The coefficient of determination was 44.9%.

Anxiety (measured by the HADS-A) and the ET depression thermometer had a significant, strong, positive correlation between; $r = 0.65$, $n = 101$, $p < 0.01$. The coefficient of determination was 42.3%.

The relationship between depression (measured by the HADS-D) and the total ET score was a significant, strong, positive correlation; $r = 0.52$, $n = 101$, $p < 0.01$. The coefficient of determination was 27.0%.

The correlation between depression (measured by the HADS-D) and distress (DT) was a significant, strong, positive correlation; $r = 0.55$, $n=101$, $p < 0.01$. The coefficient of determination between the two variables was 30.3%.

The correlation between depression (measured by the HADS-D) and the ET anxiety thermometer proved to be a significant, strong, positive correlation; r=0.55, n=101,

p <0.01. The coefficient of determination between the two variables was 30.3%.

The correlation between depression (measured by the HADS-D) and the ET depression thermometer was a significant, moderate, positive correlation; r = 0.49, n = 101, p < 0.01. The coefficient of determination between the two variables was 24.0%.

A significant, strong, positive correlation existed between distress (measured by the DT) and the ET anxiety thermometer; r = 0.65, n = 101, p < 0.01. The coefficient of determination for this relationship was 42.1%.

A significant, very strong, positive correlation existed between distress (measured by the DT) and the ET depression thermometer; r = 0.72, n = 101, p<0.01. The coefficient of determination for this relationship was 51.8%.

The relationship between the ET anxiety thermometer and the ET depression thermometer proved to be a significant, very strong, positive correlation; r = 0.72, n = 101, p < 0.01. The coefficient of determination for this relationship was 51.8%

Table 13

Correlations for the HADS and the ET

		Total ET score	Distress thermometer	Anxiety thermometer	Depression thermometer
Total HADS score	Pearson Correlation	.711**	.663**	.657**	.630**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001
HADS-A	Pearson Correlation	.715**	.647**	.673**	.645**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001
HADS-D	Pearson Correlation	.567**	.550**	.512**	.488**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001
Distress thermometer	Pearson Correlation			.648**	.716**
	Sig. (2-tailed)			<.001	<.001
Anxiety thermometer	Pearson Correlation				.723**
	Sig. (2-tailed)				<.001

**. Correlation is significant at the 0.01 level (2-tailed).

4.13 Correlations between the HADS subscales and the C-SSRS

The relationship between the total HADS score and suicide ideation proved to be a significant, moderate, positive correlation; r =0.49, n=101, p<0.01. The coefficient of determination was 24.0%. The relationship between the total HADS score and intensity of suicide ideation proved to be a significant, strong, positive correlation; r = 0.60, n=101, p<0.01. The coefficient of determination was 36%.

The relationship between anxiety (measured by the HADS-A) and suicide ideation proved to be a significant, strong, positive correlation; r = 0.53, n = 101, p < 0.01. The coefficient of determination for anxiety (measured by the HADS-A) and suicide ideation was 28.1%. A significant, strong, positive correlation existed between anxiety (measured by the

HADS-A) and the intensity of suicide ideation; r = 0.57, n = 101, p < 0.01. The coefficient of determination for anxiety (measured by the HADS) and the intensity of ideation was 32.5%.

The correlation between depression (measured by HADS-D) and suicide ideation was a significant, moderate, positive correlation; r = 0.34, n = 101, p <0.01. The coefficient of determination was 11.6%. A significant, strong, positive correlation existed between depression (measured by the HADS) and the intensity of suicide ideation; r = 0.52, n=101, p < 0.01. The coefficient of determination for depression (measured by HADS-D) and the intensity of ideation was 27.0% (see Table 14).

Table 14

Correlations between the HADS subscales and the C-SSRS constructs

		HADS-A	HADS-D	C-SSRS Suicide Ideation	C-SSRS Intensity of Suicide Ideation
HADS	Pearson Correlation	.912**	.897**	.487**	.602**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001
HADS-A	Pearson Correlation		.637**	.534**	.566**
	Sig. (2-tailed)		<.001	<.001	<.001
HADS-D	Pearson Correlation			.341**	.521**
	Sig. (2-tailed)			<.001	<.001
	N				101
C-SSRS-Suicide Ideation	Pearson Correlation				.770**
	Sig. (2-tailed)				<.001

**. Correlation is significant at the 0.01 level (2-tailed).

4.14 Correlations between the ET and the C-SSRS

The relationship between psychological distress (the total ET score) and suicide ideation, was a significant, strong, and positive correlation; $r = 0.50$, $n = 101$, $p < 0.01$. The coefficient of determination between psychological distress (the total ET score) and suicide ideation was 25.0%. A significant, strong, positive correlation was also found between psychological distress (the total ET score) and intensity of suicide ideation; $r=0.55$, $n = 101$, $p < 0.01$. The coefficient of determination was 30.3%.

The correlation between distress (DT) and suicide ideation was significant, moderate and positive; $r = 0.47$, $n = 101$, $p < 0.01$. The coefficient of determination between distress (DT) and suicide ideation was 22.1%. The relationship between distress (DT) and the intensity of suicide ideation was a significant, moderate, positive correlation; $r = 0.49$, $n=101$, $p < 0.01$. The coefficient of determination between the two variables was 24.0%.

The relationship between the ET anxiety thermometer and suicide ideation was a significant, moderate, and positive correlation; $r = 0.39$, $n = 101$, $p < 0.01$. The coefficient of determination was 15.2%. The relationship between the ET anxiety thermometer and the intensity of suicide ideation was a significant, moderate, and positive correlation; $r=0.43$, $n=101$, $p < 0.01$. The coefficient of determination was 18.5%.

The correlation between the ET depression thermometer and suicide ideation was a significant, strong, positive correlation; $r = 0.55$, $n = 101$, $p < 0.01$. The coefficient of determination was 30.3%. A significant, strong, positive correlation existed between the ET depression thermometer and the intensity of suicide ideation; $r = 0.59$, $n = 101$, $p<0.01$. The coefficient of determination was 34.8% (see Table 15).

Table 15

Correlations between the Emotion Thermometers and the C-SSRS constructs

		Total ET Score	Distress Thermometer	Anxiety Thermometer	Depression Thermometer	C-SSRS-Suicide Ideation	C-SSRS Intensity of Suicide Ideation
Total ET Score	Pearson Correlation		.863**	.882**	.898**	.503**	.552**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001
Distress Thermometer	Pearson Correlation			.648**	.716**	.467**	.485**
	Sig. (2-tailed)			<.001	<.001	<.001	<.001
Anxiety Thermometer	Pearson Correlation				.723**	.390**	.430**
	Sig. (2-tailed)				<.001	<.001	<.001
Depression Thermometer	Pearson Correlation					.553**	.589**
	Sig. (2-tailed)					<.001	<.001
C-SSRS-Suicide Ideation	Pearson Correlation						.770**
	Sig. (2-tailed)						<.001

**. Correlation is significant at the 0.01 level (2-tailed).

4.15 Correlations between socio-demographic variables, the HADS, ET and C-SSRS

This section will discuss the statistically significant correlations between the sociodemographic characteristics of the study sample and anxiety (assessed by the HADS-A), depression (measured by the HADS-D), psychological distress (measured by the total ET score), and suicide ideation (measured by the C-SSRS) (see Table 16).

There were no significant relationships between the variables of perceived social support, the actual age of participants, the age at which participants were diagnosed with breast cancer, and the variables anxiety, depression, psychological distress, and suicide ideation. Possible explanations for the no significant relationships between the aforementioned variables could be because of an inadequate sample size (Hung et al., 2017), a non-linear relationship between the variables and the presence of outliers (Etaga et al., 2021).

Table 16

Correlations between socio-demographics variables, the HADS, ET, and C-SSRS

			HADS-A	HADS-D	Total ET score	C-SSRS -Suicide Ideation
Spearman's rho	Perceived social support	Correlation Coefficient	.064	.118	.098	.137
		Sig. (2-tailed)	.524	.241	.327	.169
	Actual Age	Correlation Coefficient	-.154	-.093	-.193	-.017
		Sig. (2-tailed)	.125	.355	.053	.869
	Age diagnosed with breast cancer	Correlation Coefficient	-.156	-.092	-.172	-.076
		Sig. (2-tailed)	.119	.359	.085	.452

**. Correlation is significant at the 0.01 level (2-tailed).

4.16 Chapter summary

In this chapter a thorough description of the information gathered for this study. It offered the sociodemographic information obtained from the sample. It also portrayed the results regarding the psychological distress, anxiety, depression, and suicide ideation obtained from the sample. The data obtained from the questionnaires were analysed using a number of statistical techniques. It included descriptive statistics and the use of Pearson's (r) correlation coefficient. The specific methods of statistical analysis employed in this chapter were selected to achieve the objectives of the research. Chapter five aims to discuss the obtained findings and place them in context with prior, comparable investigations.

CHAPTER 5

DISCUSSION

5.1 Introduction

The previous chapter was a presentation of the research findings. The discussion of the findings and how they relate to existing literature will be the focus of Chapter 5. This discussion will be a three-part discussion. First the sociodemographic characteristics of the study sample will be discussed, followed by the findings regarding psychological distress, anxiety, depression and suicide ideation, and lastly the relationships between the four variables.

5.2 Sociodemographic characteristics of the research sample

Socio-demographic characteristics are found to have a significant impact on the psychological experiences of women who receive a breast cancer diagnosis (Tsaras et al., 2018). The sociodemographic characteristics related to distress in female breast cancer patients include; younger age, being unmarried, low socioeconomic status, unemployment, poor social support, and invasive cancer treatments (Shino, 2010; Syrowatka et al., 2017; Tsaras et al., 2018). It is against this background a brief review of the sample's socio-demographic features will be offered.

The mean age of the sample was 50.6 years. In this study, the mean age at diagnosis was 47.1 years. The finding is similar to the mean age at diagnosis in Kenya (47 years) (Ekpe et al., 2019), in Morocco (46 years) (Vanderpuye et al., 2017) and in Ethiopia (43.7 years) (Weiner et al., 2018). However, this is different from studies conducted in South Africa and Ghana in which the mean age of a breast cancer diagnosis is much higher, 56.2 and

51.0, respectively (Ayeni et al., 2020; Thomas et al., 2017). The study's sample was relatively younger compared to the studies by Ayeni et al. (2020), Ding et al. (2019) and Foerster et al. (2021) in which the mean age at diagnosis was above 50. Approximately 3% of the study's participants received a breast cancer diagnosis in their 20s, and 20.8% were diagnosed with breast cancer in their 30s. Although a breast cancer diagnosis is considered rare in your 20s and 30s, women as young as 30 are now diagnosed with breast cancer (Kreitler, 2019). It is not known why this sample consists of women diagnosed with breast cancer at a younger age. The high proportion of younger people in Namibia's population, among other demographic features, could be one reason for this (Brinton et al., 2014; Joko-Fru et al., 2021; O'Neill, 2023).

In this sample, 11.9 % of participants had stage 3 cancer, and 26.7% had stage 4 cancer. At most, 38.6% of the participants had advanced stage breast cancer (that is stage 3 and stage 4). In a systematic review by Vanderpuye et al. (2017), the rates of advanced breast cancer in other sub Saharan African countries, namely; Kenya (89.6%), Ethiopia (85.0%), Nigeria (72.8%), South Africa (55%) and Morocco (33%). These rates were relatively higher than the present study. However, the finding was comparable to Morocco's (33%). More recent studies by Ayeni et al. (2020) and Deressa et al. (2019) reported over 50% and 67% of women received an advanced breast cancer diagnosis in South African and Ethiopia, respectively. The use of a larger sample size could account for the discrepancy in these results. Furthermore, a lot of patients in less developed nations receive advanced breast cancer diagnoses (Rayne et al., 2019). This is because of the lack of early diagnosis, the unavailability of screening, and inadequate awareness and access to care (Espina et al., 2017; Scheel et al., 2018).

5.3 Psychological distress, anxiety, depression and suicide ideation

5.3.1 Psychological distress

The study's objective included describing the levels of psychological distress in women with breast cancer and undergoing treatment. Distressing experiences include social isolation, fear, depression, anxiety, panic attacks, vulnerability, grief, and existential and spiritual crises (Berhili et al., 2017). For this study, the total ET score was used to measure psychological distress in participants. The DT score and the total HADS score were also indicative of psychological distress in participants.

Mitchell (2010) reported that a study with a Cronbach's alpha (α) coefficient for the ET of 0.91. The high Cronbach's alpha (0.87) for this study demonstrated the remarkable internal consistency of the ET tool. This made it a reliable instrument for screening for distress in this sample. Physicians, nurses, and other medical professionals could also consider using this ultra-short and effective tool to monitor distress in breast cancer patients (Gunnarsdottir et al., 2011).

Screening positive for distress suggests that an individual's responses on a distress screening tool have generated concerns (significant scores). For this study, this was demonstrated by cut-off values greater than 9 on the total ET score (Cheng et al., 2023) and greater than 15 on the total HADS score (Shino, 2010, Mwafufya, 2018). In this study, 47.5% of the participants were classified as having significant levels of psychological distress as measured by the total ET score. Distress (DT) was the highest recorded psychological experience among participants (51.5%) from the three individual emotion thermometers. The data is similar to studies conducted by Berhili et al. (2017), Ng et al. (2017), and Shino (2010) in which the DT alone was used to measure distress in breast

cancer participants. The authors reported that 46.6% of the participants (Berhili et al., 2017), 50% of the participants (Ng et al., 2017), and 49% of the participants (Shino, 2010) in their study were distressed. The finding is different from the study by Kagee et al. (2018) in which 34.7% of the participants experienced clinical distress (one third of the study sample size). Distress affected over half the participants in this study. The fact that the study's population is young could provide an explanation for this noteworthy statistic. According to Bjerkeset et al. (2020), women who receive a breast cancer diagnosis earlier in life are twice as likely to experience pain, fatigue, and psychological distress. Younger women often have more aggressive breast cancers, often undergo more intensive treatments, and typically have a worse prognosis than older women (Iddrisu et al., 2020; Miaskowski et al., 2015; Van Ores, 2021). Konieczny et al. (2020) also suggested that it was crucial to consider body image for younger women because it seemed a more critical issue than it was for older women. In terms of their femininity and sexuality, younger women frequently place more value on their breasts (Van Ores, 2021). These results suggest that psychological intervention could be necessary for women with breast cancer and should be tailored to the needs of different age groups (Iwatani et al., 2012).

In this study, distress measured by the total HADS score was found in 30.7% of the participants. On the HADS, distress was found to be the sample's second most commonly reported psychological experience. Anxiety measured by the HADS-A was the highest (32.6%) and depression (27.7%) measured by the HADS-D was the lowest. The finding (30.7%) for distress in breast cancer patients measured by the total HADS score was in line with existing literature about similar studies. These include studies conducted by Bjerkeset et al. (2020), Berhili et al. (2017), and Shino (2010). The authors reported that

30.0% of participants (Bjerkeset et al., 2020), 26.9% of participants (Berhili et al., 2017), and 28% of participants (Shino, 2010) in their studies were distressed.

However, this finding was different from a study by Iwatani et al. (2012) in which 68.8% of breast cancer patients were classified as distressed as per the total HADS score. This difference could be the results of a larger sample size and a lower total HADS cut-off score to indicate psychological distress. In the study by Iwatani et al. (2012), distress measured using the total HADS score was assessed in 222 participants. This is more than double the sample size for this study and could explain the disparity of results. The total HADS cut-off score used in the Iwatani et al. (2012) study was ≥ 11. In this study, the total HADS cut-off score was ≥ 15. A study by Walker et al. (2007) found that the cut-off score of 15 on the total HADS score was more sensitive (87%) and specific (85%) than a lower cut-off score. Therefore, it would offer optimal screening properties for psychological distress. This suggests that the findings of psychological distress measured by the total HADS score in this study are quite accurate.

A possible reason for the difference in psychological distress levels between the total ET score and the total HADS score could be a result of the ET's simplicity compared to the comprehensive structure of the HADS. The ET measures emotional states of distress, anxiety, and depression on a scale of 1 to 10 with a single question (Harju et al., 2019). This broad appraisal of emotional states allows for a constrained consideration of personal experience. Individuals may focus primarily on one aspect of feeling distressed anxious, or depressed, and then apply an aggregate rating to solely that sensation. As a result, utilizing the ET carries the risk of overestimating or underestimating psychological distress (Silva et al., 2023). In contrast, the HADS is a more comprehensive tool for

assessing symptom variety and case-ness of anxiety and depression (Bjelland et al., 2002). Aspects of anxiety such as worry, tension, and restlessness are explored, as well as aspects of depression such as anhedonia (Coyne & Van Sonderen, 2012). This variance could have helped individuals understand the concepts underlying anxiety and depression more clearly. As a result, it made it possible for more deliberate answers from participants. Therefore, this could have lowered the possibility of overestimating one's psychological distress in comparison to the ET.

However, the relationship between the total HADS score and the total ET score had correlation coefficient of ; r=0.71. There was a considerable correlation between high levels of psychological distress measured by the total HADS score and high levels of psychological distress measured by the total ET score. Given the support of the principal measure of psychological distress (the total ET score) by additional measures (DT and HADS), one could contend that the psychological distress experienced by women diagnosed with breast cancer is noteworthy.

Plausible reasons for psychological distress in some of the women in this study could be partially attributed to treatment. Berhili et al. (2017) found that side effects from radiation, chemotherapy, and hormone therapy usually require women to adapt to changes in their physical appearance which could potentially contribute to distress. Another plausible reason for psychological distress in women in this study could be the cost of travel. Approximately 39.6 % of the participants in this study reside in the Khomas region where Windhoek is located, and cancer treatment is provided. Approximately 60.4% live in other regions of the country, including remote towns or villages. The potential stress of traveling (psychological and financial) could exacerbate feelings of distress for these individuals.

Modifications to their social roles and functioning could also be a feasible reason for psychological distress in women in this study. Most of the participants in this study were unemployed (42.6%), and 34.7% were employed full-time, 5.9% part-time and 16.8% were retired. Bjerkeset et al. (2020) found a correlation between diminished capacity to work after breast cancer diagnosis and psychological distress following treatment. Another likely explanation for psychological distress in women in this study could be a decline in health. Schapira et al. (2022) and Syrowatka et al. (2017) suggest that women who have metastatic breast cancer and are more likely to develop a recurrence may experience acute fear related to its possibility. These fears could begin after receiving the diagnosis, last during treatment, and even into survivorship. However, if left unchecked, they may develop into diagnosable mental health issues.

Approximately 52.5% of women from the total ET score and 69.3% from the total HADS score reported no significant psychological distress. One explanation for this finding could be that the prevalence of post-treatment distress in breast cancer patients is overestimated due to clinical or anecdotal evidence (Costanzo et al., 2007). In addition, generalizations are drawn from a few exceptional cases (Costanzo et al., 2007). It also could be that many women in this study had a better adjustment to their breast cancer diagnosis, treatment, and psychological challenges. For instance, in overcoming their obstacles, these women might have felt less alone and more supported (Brandão et al., 2017). Their support system provided them with both emotional and practical assistance, which enabled them to manage not just the physical demands of their illness but also the increased psychological strain and existential concerns that come with having a life-threatening condition (Brandão et al., 2017). Another plausible explanation could be that certain women

possessed a greater degree of resilience. Higher resilience levels were associated with lower depression, whereas high levels of anxious preoccupation were associated with increased cancer-related distress, anxiety, and depression (Gibbons et al., 2016).

5.3.2 Anxiety

The Cronbach's alpha (α) coefficient for the HADS-A in this study was 0.77. This was consistent with findings from similar studies. Cronbach α coefficient was 0.78 in a study by Montazeri et al. (2003), between 0.77 to 0.80 in a study by Ng et al. (2017) and 0.76 in a study by Villoria and Lara (2018). The finding differed from Cronbach's α coefficients, which were 0.89, 0.85 and 0.82 in a study by Khang et al. (2013), Hyland et al. (2019) and Beck et al. (2014). In comparison to the current study, the higher Cronbach's α coefficients found in previous studies indicate that the instrument was more reliable in those contexts. A high Cronbach's α also suggests that the test items were all related to anxiety and produced similar scores for each individual (Tavakol & Dennick, 2011).

The positive correlation between the HADS-A and the ET anxiety thermometer in this study (r=0.68) was comparable to a study by Beck et al. (2014) (r=0.65) and De Jesús et al. (2020) (r=0.63). The results imply that high levels of anxiety measured by the HADS-A in this study correlated with high levels of anxiety measured by the ET anxiety thermometer.

According to the ET anxiety thermometer, 49.5% of the participants in this study had high levels of anxiety. Almost half of the participants in this study were significantly anxious. It also confirms the need to screen for anxiety in women living with breast cancer and receiving treatment. The finding of this study was significantly greater than a study by

Schubart et al. (2014). Approximately 28% of breast cancer patients had scored high (≥ 4) on the anxiety thermometer. This suggests that anxiety has significantly increased in breast cancer patients in the last decade. The finding also differed from a previous study by De Jesús et al. (2020), which found that 56% of patients with breast cancer reported high anxiety levels on the anxiety thermometer. The variations in the results between the researcher's study and this one are most likely due to the different cut-off points used to indicate significant anxiety on the anxiety thermometer. De Jesús et al. (2020) used a cut-off point of ≥ 3, and this study used a cut-off point of ≥ 4. According to Harju et al. (2019), the majority of authors recommend a minimum value of 4 to indicate significant anxiety and depression in their respective thermometers.

Anxiety was the most frequently reported psychological experience on the HADS. Although the HADS is not a diagnostic tool for anxiety or depression disorders, scores on the HADS-A and HADS-D that are greater than 8 can suggest a mental health issue and can identify individuals who may benefit from psychotherapeutic intervention (Park et al., 2018). Approximately 32.6% of the participants had significant levels of anxiety on the HADS-A. Of this percentage, 16.8% had moderate anxiety and 15.8% had severe anxiety. The prevalence of anxiety in participants for this study (according to the HADS-A) is similar to previous studies that used the same instrument; Hassan et al. (2015) (31.7%), Kulkarni, (2022) (39.0%) and Vahdaninia (38.4%). Shino (2010) found that 32.0% of women in Namibian and 33.0% of women in South African with breast and cervical cancer had anxiety. Studies that used different instruments to measure anxiety levels in women living with breast cancer had comparable results to anxiety assessed by the HADS-A in this study. Tsaras et al. (2018) reported that 32% of women diagnosed with breast cancer

had clinically significant anxiety based on the General Anxiety Disorder-2 (GAD2) questionnaire. Williams et al. (2021) reported that 30% of breast cancer patients had clinically significant anxiety on the Spielberger State-Trait Anxiety Inventory (STAI). Therefore, validation against the HADS-A, GAD-2 and STAI shows comparable accuracy. The finding of anxiety in this study differs from studies in which the HADS-A revealed a higher percentage of women with breast cancer had anxiety. For example, Akel et al. (2017) reported 53.0%, Botto et al. (2022) reported 53.7% and Civilloti et al. (2020) reported 52.1%. Possible explanations for why these scores are higher than the finding of this study could be because a larger sample size was used or because the majority of patients in those studies were assessed soon after diagnosis (1-3 years), which was not the case for each participant in this study. One may argue that the most anxious years are those shortly after a diagnosis of breast cancer.

According to Hashemi et al. (2020), the varying prevalence of anxiety in breast cancer patients could be due to the use of different instruments to assess for anxiety and the nature of those instruments. They also propose that overlooking the impact of social attributes, demographic traits, and stage of breast cancer on anxiety levels in patients could also be a contributing factor. An additional reason for this discrepancy could be the use of generic instruments that do not have appropriate scales to evaluate the psychological experiences of women living with breast cancer. Furthermore, it is probable that the anxiety levels of breast cancer patients have increased over time.

The researcher is unable to conclude that the levels of anxiety in this study were solely due to being diagnosed with breast cancer. This is because other confounding variables were not considered. Some possible reasons that could account for these findings could

be uncertainty about the future following a breast cancer diagnosis, fear of the side effects from treatment, and fear of recurrence.

5.3.3 Depression

The Cronbach's alpha (α) coefficient for the HADS-D in this study was 0.75. The finding was within the range of Cronbach's α coefficients for the HADS-D in previous studies such as Hyland et al. (2019) (0.83), Beck et al. (2014) (0.74) and Weay et al. (2016) (0.70 and 0.73). Within the Namibian context, this study's Cronbach's α coefficient was greater than that of Shino's (2010) study, which was 0.63. This suggests that the interrelatedness between test items on the Oshiwambo version of the HADS-D was less reliable than the English version of the HADS-D used for this study (Tavakol & Dennick, 2011). Research by Ng et al. (2017) and Berhili et al. (2017) also found lower Cronbach's α coefficient for the HADS-D that ranged between 0.68-0.69. The lower Cronbach's α coefficients in previous studies suggest that the HADS was less reliable in those contexts compared to the current study. The study yielded a lower Cronbach's α coefficient for the HADS-D compared to earlier studies by Ilic et al. (2021) (0.85), Nanni et al. (2018) (0.80) and Villoria and Lara (2018) (0.86). The higher Cronbach's α coefficients discovered in earlier research suggest that the instrument was more reliable in those contexts compared to the present study.

The positive correlation between the HADS-D and the ET depression thermometer in this study (r=0.52) was comparable to a study by De Jesús et al. (2020) (r=0.57). The finding suggests that moderately high levels of anxiety on the HADS-D in this study were associated with moderately high levels of depression on the ET depression thermometer.

In this study, 27.7% of participants had significant levels of clinical depression on the HADS-D. Of this number, 20.8% of the participants had moderate symptoms of depression, and 6.9% had severe symptoms of depression. The prevalence of clinically significant depressive symptoms on the HADS-D for this study is higher than the study conducted by Shino (2010), in which 18.4% of Namibian women were found to have depression. The disparity may suggest that more women with breast cancer in Namibia developed depression over time. The finding is comparable to prior studies that suggested that 20% to 33% of women with breast cancer had clinically significant depression based on the HADS-D scores. This included a study by Botto et al. (2022) (31.3%), Civilloti et al. (2020) (33.0%), Kulkarni (2022) (33.0%), Park et al. (2018) (20.0%), Srivastava et al. (2016) (28.0%), Vahdaninia et al. (2010) (22.2%), Zabora et al. (2001) (32.8%). The sociodemographic traits of the sample could be one possible factor contributing to the variation of results (Nigussie et al., 2023). For example, this study measured the magnitude of depression in females diagnosed with breast cancer, whereas Botto et al. (2022) and Civilloti et al. (2020) assessed for depression in females that recently received a breast cancer diagnosis. Furthermore, Wondimagegnehu et al. (2019) suggest that newly diagnosed breast cancer patients are at a higher risk of developing depressive symptoms.

Approximately 33.7% of participants in this study had high levels of depression on the ET depression thermometer. The is different from a study by De Jesús et al. (2020) that found 40% of participants had high levels of depression on the ET depression thermometer. With the ET depression thermometer, individuals rate their level of low moods on a scale of 1-10 for the past week. Therefore, a probable reason for the difference in results could be that participants in the other study had a worse week compared to participants in this study.

Studies that used a different instrument to measure depression in women with breast cancer recorded a higher percentage of women with depression compared to the HADS-D and ET depression thermometer in this study. These findings are lower compared to the high prevalence of depression in breast cancer patients from South Africa (36.6%) (Kagee et al., 2018), Mexico (43%) (Perez-Fortis et al., 2017) and Nigeria 72.9% (Opadola et al., 2022). The varied sensitivity levels in the different instruments used to detect depression could explain the increased rate of depression observed in women with breast cancer in prior studies compared to the current study. Atypical symptoms of depression (anger, irritability, and hostility) were overlooked in the assessment of depression in this study. Anger has been associated with depression in women that are newly diagnosed with breast cancer (Li et al., 2015). This oversight often results in underdiagnosis of depression in breast cancer patients (Ng et al., 2017). It can also be challenging to diagnose depression in cancer patients when there are physical side effects from the disease or treatment in addition to depressive symptoms (Cvetković & Nenadović, 2016; Ng et al., 2017). Ng et al. (2017) additionally reported that women living with breast cancer are typically reluctant to disclose depression symptoms. Furthermore, the researcher is unable to conclude that the levels of depression in this study were solely due having breast cancer. This is because the research did not consider confounding variables.

5.3.4 Suicide ideation

One of the objectives for this study was to assess the incidence of suicide ideation in women with breast cancer. A study by Kim et al. (2013) found that suicide ideation was common among breast cancer patients. Gaitanidis et al. (2018) and Kim et al, (2013) also

found that the prevalence of suicide ideation in individuals with breast cancer did not differ between the initial short- and long-term follow-ups after diagnosis.

In this study, the Cronbach's alpha (α) coefficient for the C-SSRS construct suicide ideation was 0.66. This suggests adequate internal consistency exists. The result is similar to a study by Lindh et al. (2018) that found Cronbach's α coefficient for suicide ideation to be 0.64. Cronbach's α coefficient for the C-SSRS construct intensity of suicide ideation was 0.91 for this study. This suggests that the test items for intensity suicide ideation on the C-SSRS strongly measure the same construct. The result is similar to a study by Posner et al. (2011) that found Cronbach's α coefficients for intensity of suicide ideation to be 0.94 and 0.95 at different points in time. The finding differed from a study by Lindh et al. (2018) that found Cronbach's α coefficient for intensity of suicide ideation to be 0.49. In comparison to the current study, the lower Cronbach's α coefficients found in Lindh's et al. (2018) study indicate that the C-SSRS was less reliable in that context.

A significant number of participants in this study had suicidal thoughts (12.9%). In this study, the prevalence of suicide ideation in this study was comparable to previous studies by Araya and Gidey (2020) (10.8%), Kim et al. (2013) (11.4%), Kazlauskiene et al. (2022) (4.3%-12.8%), Tang et al. (2022) (13.1%), and Kulkarni (2022) (14%). The result differed from a study by Zhong et al. (2017) in which 21.8% of participants presented with suicide ideation. This result suggests that clinical oncology settings should be aware of suicide ideation individuals diagnosed with breast cancer. This is because a significant number of cancer patients have suicidal thoughts (Tang et al., 2022). Additionally, developing appropriate interventions requires a thorough understanding of the attitudes, emotions, and experiences of this patient population. For example, depression and hopelessness are

well-documented risk factors for suicide in cancer patients (Anguiano et al., 2012; Reich et al., 2008). It would be crucial to explore these factors to implement appropriate interventions that can counter these feelings in women living with breast cancer. Suicidal thoughts are more likely to surface following traumatic events, for example, death or loss (Kazlauskiene et al. (2022). The COVID-19 pandemic can also be considered a traumatic event and its adverse effects could have contributed to the surge in suicidal thoughts in women living with breast cancer.

In this study, suicide ideation in women with breast cancer is lower than in other cancer populations. For example, there is 32% prevalence in ovarian cancer (Zhang et al.,2023), 22.3% prevalence in lung cancer (Yu et al., 2023), 28.9% prevalence in gynaecological cancer (Zhou et al., 2020), and 34% prevalence in stomach cancer (Araya & Gidey, 2020). However, compared to suicide ideation in women with cervical cancer in the study by Karawekpanyawong et al. (2021) (6.5%) and Akufuna (2022) (1.4%), breast cancer patients in this study had a higher prevalence of suicide thoughts. Kye and Park (2017) found that among the various cancer diagnoses', having lung cancer or cervical cancer increased the likelihood of suicide. They found that a marginally significant correlation between suicide and breast cancer also existed.

Suicidal ideation can be passive, characterized by sporadic thoughts of suicide without any intention of acting on them, or active, characterized by plans and thoughts of suicide (Abd-Elrhman et al., 2022). Approximately 7.9% of participants had passive suicide ideation. They responded positively to item 1 of the C-SSRS (suicide ideation construct), which expressed a want to be dead or to be able to go to sleep and not wake up. Approximately 5.0% of participants in this study had active suicide ideation. They

responded positively to either item 2 or 3 of the C-SSRS (suicide ideation construct), which suggested that they had non-specific active suicidal thoughts or active suicidal thoughts with no plan or intent to act. Only 1.0% of the participants had severe suicidal ideation. They responded positively to item 4 of the C-SSRS (suicide ideation construct), which indicated some intent to act on their suicidal thoughts.

Plausible reasons associated with passive and active suicide ideation in women for this study could be the sense of isolation from receiving a breast cancer diagnosis, possible distress from traveling to receive treatment, and the psychological effects of cancer treatments (Abd-Elrham et al., 2022; Kazlauskiene et al., 2022; Aboumrad et al., 2018). This can result in the development of symptoms associated with helplessness, loss of control, and hopelessness which are factors associated with suicide ideation (Van Oers & Schlebusch, 2021). Medical personnel should receive training on how best to disclose a breast cancer diagnosis. Patients should not only be informed about their breast cancer diagnosis, but they should also be empowered to participate in choosing and managing their care (Gorniewicz et al., 2017). Approximately 60.4% of the participants did not live in the Khomas area, where the treatment centres are based. A study by Kazlauskiene et al. (2022) found that the likelihood of suicidal thoughts was higher in breast cancer patients who lived in rural areas than in those who did not. This could be because patients who reside in remote areas have difficult access to health care. The potential stress of traveling (psychological and financial) for treatment could exacerbate feelings of anxiety and depression. Furthermore, suicidal ideations are more prevalent in cancer patients who experience more psychological distress likely caused by the stress of trying to cope (Zhang et al., 2017). According to Aboumrad et al. (2018), cancer patients experience significant

physical and psychological side effects after treatment. This includes increased emotional distress and demoralization. These factors are also linked to suicide ideation in individuals that are living with breast cancer (Vehling et al., 2017). According to a study by Aboumrad et al. (2018), 44% of cancer patient suicides happened while they were receiving palliative care. Furthermore, lung cancer (22%) and prostate cancer (34%) were the most prevalent primary cancer forms. Moreover, a firearm was used as a means of suicide in the vast majority of cases.

In this study, the majority of individuals who acknowledged having suicidal thoughts also stated that deterrents (family, religion, and the fear of death) prevented them from attempting suicide (11.9%). Abd-Elrhman et al. (2022) suggested that religion as a deterrent gives individuals purpose. Positive religious coping can assist individuals with disease adjustment by offering emotional comfort, hope, and a sense of meaning and purpose (Toledo et al., 2021). Faith can shield a person from suicidal thoughts and help them manage the adverse effects of having breast cancer at different stages of pharmacological therapy (Abd-Elrhman et al., 2022). A study by Trevino et al. (2014) found that among advanced cancer patients, negative religious coping (spiritual problems like wrath toward God, dread of divine punishment, and disengagement from a spiritual community) was associated with an increased risk of suicide (OR, 2.65 [95% CI, 1.22, 5.74], $p = 0.01$). Asuzu and Adenipekun (2015) stated that spirituality using prayer is beneficial, it can result in tension relief, increased hope, and reduced anxiety. According to a qualitative study by Toledo et al. (2021), spirituality was found to have a significant impact on the psychological well-being of women with breast cancer. This was because spirituality fostered a calm and positive mindset, which lessened the women's fear of the

disease and its recurrence. In the Levine et al (2009) study, approximately 81% of breast cancer patients reported using prayer to help them cope with their diagnosis and treatment. Furthermore, the study revealed that women who prayed were more likely to have a more positive perspective on their breast cancer experience than those who did not. Although there is a lack of research on the impact of prayer on health, prayer appears to be widely employed by cancer patients to cope with their disease (Levine et al., 2009).

5.4 Correlations between psychological distress, anxiety, depression and suicide ideation

A lot of positive relationships existed between psychological distress, anxiety, depression, and suicide ideation in this study.

High scores on the total HADS scale yielded high scores on the HADS-A (r=0.91) and HADS-D (r=0.90). The correlations for the HADS, HADS-A, and HADS-D in this study are similar to results from previous oncology research studies (Beck et al., 2014; Mystakidou et al., 2004). The study by Beck et al. (2014) found a strong correlation between the total HADS score and HADS-A (r=0.88) and HADS-D (r=0.90). Mystakidou's et al. (2004) findings correlated with r=0.86 for HADS-A and r=0.85 for HADS-D.

Prior research in oncology populations found a positive correlation existed between anxiety and depression in patients (Alagizy et al., 2020; Obispo-Portero et al., 2022; Tsaras et al., 2018; Van Oers, 2021). In this study, there was a significant positive correlation between the HADS-A and the HADS-D, the ET thermometer, and depression on the ET thermometer. High levels of anxiety (on the HADS-A) were associated with high levels of depression (on the HADS-D) (r=0.64). The results were comparable to

research by Rodgers et al. (2005), Shino (2010), and Beck et al. (2014), whose correlation coefficients were r=0.70, 0.50, and 0.58, respectively. Additionally, high scores on the ET anxiety thermometer were also strongly correlated with high scores on the ET depression thermometer (r=0.72). The data also suggests that anxiety and depression could be comorbid psychological experiences (Mwafufya, 2018). One possible explanation for this could be that anxiety is a negative psychological experience that exacerbates thoughts and feelings of powerlessness in a cancer patient. These feelings could result in depression (Mwafufya, 2018). Furthermore, the HADS has received several psychometric validations to demonstrate its validity and reliability as a screening tool for anxiety and depression in people with breast cancer (Rodgers et al., 2005). These include the strong positive relationship between the HADS-A and HADS-D scales, their good internal reliability, and the consistency of their scores with normative breast cancer HADS scores (Rodgers et al., 2005).

The ET's Cronbach's alpha coefficient in this study was 0.87, demonstrating exceptional internal consistency. This finding was similar to a study by Cheng et al. (2023) in which Cronbach's α coefficient was 0.92. In this study, high psychological distress scores (the total ET score) were associated with high scores on the DT (r=0.86), the ET anxiety thermometer (r=0.88), and the ET depression thermometer (r=0.90).

There was a strong correlation observed between elevated scores on the DT and elevated scores on the ET anxiety thermometer (r= 0.65) and ET depression thermometer (r=0.72).

High levels of psychological distress as measured by the total HADS score in this study were likewise correlated with high levels of psychological distress measured by the total ET score (r=0.71) and high levels of distress on the DT (r=0.66). Significant, strong

positive correlations existed in these relationships. These results are comparable to a study by Beck et al. (2014) in which the total HADS score and the DT score have a significant, strong, positive correlation; r=0.65. The results contrast with oncological studies by Van der Geest et al. (2018), Shino (2010), and Mwafufya (2018). The total HADS score and DT had a moderate to weak positive correlation; r=0.56, r=0.35, and r=0. 38, respectively.

A strong, positive correlation existed between distress (DT) and the HADS-A (r=0.65) in the study. On the DT, there was a strong correlation between high levels of distress and high levels of anxiety on the HADS-A. The findings were similar to a study by Beck et al. (2014), Civilotti et al. (2020), and Van der Geest et al. (2018) in which r=0.65, r=0.69, and r=0.58, respectively. The findings differ from the study by Shino (2010). The relationship between distress (DT) and anxiety (HADS-A) had a moderate, positive correlation in the Namibian context (r=0.463) and a weak, positive correlation in the South African context (r=0.23). Furthermore, there was a correlation between elevated levels of psychological distress as indicated by the total ET score and elevated anxiety levels as measured by the HADS-A (r=0.72).

High levels of distress (DT) were also reasonably associated with high levels of depression measured by the HADS-D in this study(r=0.55). The findings differ from studies in other oncological settings in which weak to moderately strong relationships were found between the DT and the HADS-D; r=0.33, r = 0.45, r=0.36 (Mwafufya, 2018; Shino, 2010; Tjiroze, 2013).

In the study, moderate to strong positive relationships existed between the total HADS score, HADS-A, HADS-D, the total ET score, the DT, the ET anxiety thermometer, the ET depression thermometer, and the intensity of suicide ideation. A possible reason for

these findings could be the strong relationship between psychological distress, depression, and suicide ideation (Fang et al.,2014; Şengül et al., 2014). Moderate to high levels of psychological distress as measured by the total HADS score, the total ET score, and the DT were associated with moderate to high-intensity levels of suicide ideation (r=0.60, r=0.55, r=0.49). High levels of anxiety (on the HADS-A) were also associated with high-intensity levels of suicide ideation (r=0.57). However, there was a correlation between moderate levels of anxiety on the ET anxiety thermometer and moderate-intensity levels of suicide ideation. High levels of depression (on the HADS-D) and on the ET depression thermometer correlated with high-intensity levels of suicide ideation (r=0.52, r=0.59).

5.5 Chapter summary

In Chapter 5, the results of the study were discussed in the context of existing literature. Plausible reasons for the obtained results were also provided. There were numerous parallels and differences between the current study's findings and those of previous investigations. The mean age of a breast cancer diagnosis was 47.1 for this study. Approximately 3% of the study's participants were diagnosed with breast cancer while still in their 20s and 20.8% in their 30s. More than half of the study's participants experienced distress. Approximately 32.6% of the participants reported having moderate to severe anxiety. In addition, 6.9% of the participants exhibited severe depressive symptoms, and 20.8% of participants had moderate symptoms of depression. A significant number of participants presented with suicide ideation (12.9%). Although suicidal ideation does not necessarily lead to suicide, healthcare professionals in oncology settings should be educated about the risk factors for suicide in cancer patients. Furthermore, the HADS and ET showed comparable accuracy when screening for distress, depression, and

anxiety. A lot of positive correlations existed between psychological distress, anxiety, depression, and suicide ideation.

CHAPTER 6

CONCLUSION, LIMITATIONS & RECOMMENDATIONS

6.1 Introduction

Chapter 5 was primarily concerned with discussing the findings of the present study, putting them in the context of prior research, and investigating some potential explanations. This chapter will outline the conclusions of the present study, and address some strengths and limitations. The recommendations for practical implementation and for future research will also be outlined.

6.2 Conclusions

A breast cancer diagnosis is considered to be an emotionally distressing experience. This study assessed the levels of psychological distress, anxiety, depression, and suicide ideation in women living with breast cancer and receiving treatment at Dr. A. Bernard May Cancer Care Centre and the Namibia Oncology Centre (NOC), both based in Windhoek. The sample was relatively younger. Most participants had advanced stages of breast cancer (stages 3 and 4). Approximately 50% of participants had psychological distress as measured by the screening instruments DT and ET. A significant number of women in this study were anxious (49.5% as measured by the ET anxiety thermometer and 32.6% as measured by the HADS-A). Almost a third of the sample size had significant levels of depression (33.7% as measured by the ET depression thermometer and 27.7% as measured by the HADS-D). Approximately 12.9% of women presented with suicide

ideation. Significant positive correlations were identified between the HADS-A and the ET ($r=0.72$, $p<0.01$), the HADS-D and the ET ($r=0.52$, $p<0.01$), the HADS-A and the C-SSRS ($r=0.53$, $p<0.01$) and the ET and the C-SSRS ($r=0.50$, $p<0.01$). There were no significant relationships between the sociodemographic variables (perceived social support, the actual age of participants, the age at which participants were diagnosed with breast cancer) and the variables anxiety, depression, psychological distress, and suicide ideation. The present study's findings support earlier research, indicating that women diagnosed with breast cancer do experience psychological distress, anxiety, depression, and suicide ideation. Research on suicide ideation in individuals diagnosed with breast cancer is scarce.

6.3 Strengths and limitations of the study

6.3.1 Strengths of the study

A noteworthy strength of this study is that it adds to the context of Psycho-Oncology which is a pioneering discipline in Africa including Namibia.

The study emphasizes how prevalent anxiety is among women diagnosed with breast cancer in Namibia. The study additionally highlights Namibia's scarcity of studies on suicide ideation and cancer. Further research in this area is required.

Another strength of the study is its emphasis on the need for more research on depression in breast cancer survivors. This is especially relevant given reports that state that women who are diagnosed with breast cancer are often hesitant to admit to having depression.

Lastly, the current study has underscored the importance of early counselling interventions and psychological support for women with breast cancer.

6.3.2 Limitations of the study

Firstly, the study only focused on women living with breast cancer and receiving treatment at Dr A. Bernard May Cancer Centre and NOC. The findings cannot be generalized to other cancer patient populations in the country or elsewhere.

Secondly, the cross-sectional design of the study limited its understanding of the cause-and-effect relationship. Longitudinal studies would have provided unique insight into variable patterns and developmental trends for psychological distress, anxiety, depression, and suicide ideation.

Additionally, the study did not explicitly aim to examine the causal relationships between sociodemographic factors and psychological distress, anxiety, depression, and suicidal ideation. Therefore, it is not possible to definitively associate the results of this study with a breast cancer diagnosis.

Another limitation concerns the data collection process. If there were no translators available, women who did not speak English were unable to take part in the study. As a result, these findings are not a full representation of all women living with breast cancer and receiving treatment at Dr A. Bernard May Cancer Care Centre and NOC.

Lastly, a qualitative approach would have been better suited for this study, especially for sensitive issues such as suicide. The quantitative design excluded comprehensive in-depth information about the psychological experiences of individual women with breast cancer.

6.4 Recommendations

6.4.1 Recommendations for practical implementation

The results from this study suggest that clinical oncology settings ought to be aware of breast cancer patient's suicidal thoughts and other symptoms of elevated levels of distress. Health professionals must be aware of all these psychological experiences. Furthermore, they must receive adequate training on how to identify individuals who could be at risk.

The researcher recommends that oncology centres setup a counselling centre or a psychiatric clinic to help diagnose and support women with potential psychological issues early on following their breast cancer diagnosis (Abd-Elrham et al., 2022).

The researcher recommends pre and post-counselling for women evaluated for and diagnosed with breast cancer. It could help an individual to psychologically prepare for the diagnosis and the treatment that could follow.

The researcher recommends that oncology professionals should have informed sessions with a patient about their breast cancer diagnosis, possibilities for treatment, and adverse effects. Additionally, sensitivity or communication skills training should be provided to these specialists/ medical personnel on how to deliver this information. This could improve a patient's satisfaction with how their diagnosis delivered and also manage patient distress.

The researcher recommends that oncology professionals consider using the distress thermometer (DT) to detect distress in patients during consultations. The DT is an ultra-short screening tool for distress. It is also quick and easy to administer.

The researcher recommends using different psychological interventions, for example, behavioural training (such as yoga and relaxation), cognitive behavioural therapy (CBT), which teaches coping mechanisms, stress management training, and support groups. In addition, the researcher suggests that psychosocial interventions in breast cancer patients should be tailored for specific target groups, for example, different age groups. This is because people in different age groups have varied psychological experiences, for example, body image or fertility concerns in young women diagnosed with breast cancer.

Lastly, the researcher recommends developing psycho-educational programs for women living with breast cancer on topics such as pain management, self-efficacy, and coping with suicidal thoughts.

6.4.2 Recommendations for future studies

Recommendations for future research are based on the study's findings and limitations. The researcher recommends that future studies consider a qualitative approach. It will better capture the distinct in-depth experiences of women diagnosed with breast cancer that are difficult to quantify. A qualitative approach could also yield in-depth insight, especially for sensitive topics such as suicidal ideation.

The researcher recommends conducting studies with larger and more representative samples, utilizing different statistical analytic approaches, and focusing on certain sociodemographic groups to yield more meaningful data. For this study, the researcher only had one month to collect data. As a result, the sample size was smaller than anticipated.

Future research endeavours should also consider conducting research in the participant's native tongues. Although most participants could comprehend and speak English, some expressed how they felt more comfortable expressing themselves in their native tongues.

Future studies should focus on psychological distress, anxiety, depression, and suicide ideation during different stages of survivorship.

Comparable studies on individuals with other oncological diseases should be carried out. A replication of the study in Namibian cancer populations, for example in those with cervical cancer, could be beneficial. It would also be beneficial to screen for suicidal ideation in different cancer populations to supplement the limited research on suicidal ideation in cancer patients in Africa.

Further research should utilize instruments that can screen for other types of distress (for example anger) and suicidal thoughts at different phases of a breast cancer diagnosis and to follow up with patients over time.

For future studies, it would be beneficial to find meaningful and practical strategies for oncology professionals to communicate with breast cancer patients.

The spectrum of actions taken by Psycho-Oncology organizations is not widely documented. Future research could focus on the treatment options provided by organizations providing Psycho-Oncology care.

Lastly, the researcher recommends that future studies consider examining the most effective psychological interventions offered to cancer patients in Namibia for them to be tailored to the demands of women living with breast cancer and receiving treatment in Namibia.

6.5 Personal reflections

During the data collection process, the researcher had the privilege of interacting with each research participants and also administered each instrument to them individually. This is an overview of what the researcher gathered from conversations with most of them.

The reactions of participants made the researcher more conscious of how sensitive this research topic was. Many of the reactions were laden with emotion (fear, pain, sorrow, tears). Some women were hesitant to take part in the study. This was due to a variety of factors. One being, exhaustion from treatment or sitting in the waiting room. Another factor was that they had recently been diagnosed with breast cancer. A few women who had recently been diagnosed with breast cancer felt that answering the research questions could trigger unresolved emotions. For example, one newly diagnosed participant, could not contain her tears when asked to be a part of the study. In addition, the news of breast cancer recurrence was particularly distressing for some women. As a result, they declined to partake in the study. These emotional encounters underscored the profound impact of a breast cancer diagnosis on women and highlighted the sensitivity of the subject matter. Even among those who agreed to participate in the survey, the researcher noticed a degree of reservation in some. Some women were more inclined to take part in the study when they were reassured that it was not qualitative. This is because they were not ready to have in-depth conversations about their psychological experiences.

Despite the confidential nature of the study, one woman was displeased that they had been identified as a breast cancer patient by the oncological staff and approached by the researcher as a result. She felt it was an infringement of her privacy. The researcher could fully understand why. It is her right to choose who should know of her diagnosis and that

choice was taken away when it was revealed to a stranger (the researcher). The situation also made the researcher feel tremendously guilty. As a result, the researcher began to wonder if conducting this research was a good idea. However, the researcher also noticed the trauma of having to cope with something personal (a breast cancer diagnosis), as well as the fear of others finding out.

Several participants shared their experiences regarding disclosing their breast cancer diagnosis to family members, revealing a spectrum of reasons behind their choices. Some individuals confessed that they had not informed any of their family members about their diagnosis, while others chose to confide in one or two close relatives or friends. Each decision was driven by unique motivations. One woman openly admitted that she hesitated to share her diagnosis because doing so would make it feel "more real." This response, to the researcher, suggested a form of denial, akin to what one might experience when grappling with the harsh reality of their situation. However, it also suggested that the woman was in the process of coming to terms with her thoughts and emotions. Another participant revealed that she could not bring herself to tell her daughters about her breast cancer diagnosis, even though they were aware of her regular hospital visits. She was unable to explain why this was the case. The researcher considered the possibility that, in the participant’s mind, her girls would be better off knowing that their mother is going for check-ups at the hospital as opposed to knowing that she has breast cancer. IT could be because the latter is associated with illness and the idea that something is wrong, whereas the former is associated with routine and everything is okay.

A few individuals remarked about the stigma that still surrounds a breast cancer diagnosis in their families and communities. As a result, they felt compelled not to disclose their

diagnosis. They did not want to be stigmatized. They also did not want to be treated like they were sick because their family members associated a breast cancer diagnosis with death. They felt that these perspectives and those terms were negative, and that outlook did not help with their recovery. Hence, they would prefer to keep their diagnosis private and cope with it alone or with only one or two people being aware. Even in doing this, one participant admitted that it can still get overwhelming.

Some individuals also expressed a desire not to be a burden to their families. Therefore, they choose to cope with things on their own, even if they would like some assistance at times. A woman shared her experience of living with a breast cancer diagnosis, revealing that even though her family was aware of it, the topic remained taboo in her household. Consequently, no one initiated conversations about it, leaving her feeling unable to discuss her condition with her family. Another participant disclosed that her family members exhibited hesitancy in sharing utensils with her due to their unfounded fear of contracting breast cancer. She even asked the researcher whether this was true, suggesting that she potentially believed it to some extent. It also demonstrated to the researcher how misinformed she was about the causes of breast cancer. It also suggests that some people still have misconceptions about being diagnosed with breast cancer. One participant reported that her neighbour mocks her for having a flat chest and calls her “dirty” which is extremely upsetting. She claimed the latter remark is because he thinks she has cervical cancer. It also demonstrates the stigma associated with cervical cancer.

Some women disclosed that they were currently in the acceptance phase of their breast cancer journey. Their distress was a result of other factors other than the diagnosis itself. It included the financial hardship associated with breast cancer treatments, anxiety about

their children's well-being, and not being as active as they previously were. Some women expressed having body insecurities a result of the side effects of radiation, chemotherapy, and hormone therapy. One participant stated that her appearance has changed so much she now avoids looking at herself in the mirror. The physical changes brought about by breast cancer had a deep impact on her self-perception. The emotions surrounding mastectomies varied among the women. Some felt a sense of insecurity, while others took great pride in their mastectomies as symbols of their resilience and survival. Furthermore, for some individuals, undergoing breast reconstruction surgery proved to be a source of increased confidence, happiness, and reduced anxiety. Interestingly, one participant added a touch of humour by joking that her breast cancer diagnosis had an unexpected benefit – it helped her lose weight. She expressed genuine delight in her weight reduction after struggling with excess weight for an extended period, finding a silver lining in her challenging journey.

The researchers found that a sizable percentage of the participants were unaware of the stage of their breast cancer. When probed further as to why that was, some expressed that it was something that they did not want to think about. Other women forgot to inquire following a treatment or consultation with the doctor. The researcher associated these habits with the adage "ignorance is bliss," and wondered if they were a coping mechanism for some participants. Some women reported feeling more anxious and fearful when they were first informed they had breast cancer compared to the present day. They suggested that the fear was inflicted by their physician and their uncompassionate and forthright delivery of a breast cancer diagnosis. It shows that not all women received appropriate support and guidance from healthcare personnel. They stated that they would have

appreciated immediate counselling from that point forward. Nonetheless, they got less anxious and more tolerant of their condition with time.

A notable characteristic observed among many of the women in this study was their remarkable resilience. Some of them went beyond sharing their journeys and recommended alternative treatment approaches that they found beneficial, expressing a desire for medical professionals to incorporate these strategies alongside chemotherapy and radiation therapy. These alternative approaches encompassed dietary adjustments and mindfulness therapies, such as yoga. One participant candidly acknowledged that practicing yoga played a significant role in helping her find inner peace and come to terms with her diagnosis.

6.6 Chapter summary

Chapter 6 included the general conclusions of the entire study. It outlined some of the strengths and limitations of the study. It included suggestions for both practical implementation and future research. It also provided an account of the researcher's reflection on her interactions with participants from the study.

REFERENCES

Abd-Elrhman, R. A. E., Abd-Elkhalek, H. A., & Abdel Hady, R. F. (2022). Self-efficacy, pain and suicidal thoughts among women with breast cancer undergoing chemotherapy. *Zagazig Nursing Journal, 18*(2), 236-252.

Aboumrad, M., Shiner, B., Riblet, N., Mills, P. D., & Watts, B. V. (2018). Factors contributing to cancer-related suicide: A study of root-cause analysis reports. *Psycho-Oncology, 27*(9), 2237-2244.

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties*, *4*(2), 330-333.

Ahn, M. H., Park, S., Lee, H. B., Ramsey, C. M., Na, R., Kim, S. O., Kim, J.E., Yoon, S., & Hong, J. P. (2015). Suicide in cancer patients within the first year of diagnosis. *Psycho-Oncology, 24*(5), 601-607.

Akel, R., El Darsa, H., Anouti, B., Mukherji, D., Temraz, S., Raslan, R., Tfayli, A., & Assi, H. (2017). Anxiety, depression and quality of life in breast cancer patients in the levant. *Asian Pacific Journal of Cancer Prevention, 18*(10), 2809-2816.

Akram, M., Iqbal, M., Daniyal, M., & Khan, A. U. (2017). Awareness and current knowledge of breast cancer. *Biological Research*, *50*(33), 1-23.

Akufuna, E. (2022). *Adherence to radiation therapy among cervical cancer patients at cancer diseases hospital in Lusaka, Zambia* [Doctoral dissertation, The University of Zambia].

Akuoko, C. P., Armah, E., Sarpong, T., Quansah, D. Y., Amankwaa, I., & Boateng, D. (2017). Barriers to early presentation and diagnosis of breast cancer among African women living in sub-Saharan Africa. *PloS One, 12*(2), 1-18.

Alagizy, H. A., Soltan, M. R., Soliman, S. S., Hegazy, N. N., & Gohar, S. F. (2020). Anxiety, depression and perceived stress among breast cancer patients: Single institute experience. *Middle East Current Psychiatry, 27*(1), 1-10.

Al-Halabí, S., Sáiz, P. A., Burón, P., Garrido, M., Benabarre, A., Jiménez, E., Cervilla, J., Navarrete, M.I., Díaz-Mesa, E.M., García-Álvarez, L., Muñiz, J., Posner, K., Oquendo, M.A., García-Portilla, M.P., & Bobes, J. (2016). Validation of a Spanish version of the Columbia-Suicide Severity Rating Scale (C-SSRS). *Revista de Psiquiatría y Salud Mental, 9*(3), 134-142.

Al-Shaaobi, A., Alahdal, M., Yu, S., & Pan, H. (2021). The efficiency of distress thermometer in the determination of supporting needs for cancer inpatients. *Libyan Journal of Medicine, 16*(1), 1-8.

American Psychiatric Association. (2005). *Let's talk facts about depression*. https://www.ppcn.org/Education_Handouts/Let-s-Talk-About-Depression-Brochure.pdf

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.

Amini-Tehrani, M., Zamanian, H., Daryaafzoon, M., Andikolaei, S., Mohebbi, M., Imani, A., Tahmasbi, B., Foroozanfar, S., & Jalali, Z. (2021). Body image, internalized stigma and enacted stigma predict psychological distress in women with breast

cancer: A serial mediation model. *Journal of Advanced Nursing, 77*(8), 3412-3423.

Amonoo, H. L., Abdul-Rahim, S. A., Atobrah, D., Addo-Mensah, D., Longley, R. M., Jacobo, M. C., & Pirl, W. F. (2023). Psychosocial oncology in sub-Saharan Africa: Lessons from Ghana. *Psycho-Oncology, 32*(1), 139-147.

Anguiano, L., Mayer, D. K., Piven, M. L., & Rosenstein, D. (2012). A literature review of suicide in cancer patients. *Cancer Nursing, 35*(4), E14-E26.

Annunziata, M. A., Muzzatti, B., Bidoli, E., Flaiban, C., Bomben, F., Piccinin, M., Gipponi, K.M., Mariutti, G., Busato, S., & Mella, S. (2019). Hospital Anxiety and Depression Scale (HADS) accuracy in cancer patients. *Supportive Care in Cancer, 28,* 3921-3926.

Anyigba, C. A., Awandare, G. A., & Paemka, L. (2021). Breast cancer in sub-Saharan Africa: The current state and uncertain future. *Experimental Biology and Medicine, 246*(12), 1377-1387.

Araya, T., & Gidey, W. (2020). Factors associated with suicidal ideation, and attempt among cancer patients in Ayder comprehensive specialized hospital: Cross-sectional, Mekelle, Ethiopia. *The Open Public Health Journal, 13*(1), 365-372.

Arnold, M., Morgan, E., Rumgay, H., Mafra, A., Singh, D., Laversanne, M., Vignat, J., Gralow, J.R., Cardoso, F., Siesling, S., & Soerjomataram, I. (2022). Current and future burden of breast cancer: Global statistics for 2020 and 2040. *The Breast, 66,* 15-23. https://doi.org/10.1016/j.breast.2022.08.010

Asamoah, M. K. (2014). Re-examination of the limitations associated with correlational research. *Journal of Educational Research and Reviews*, *2*(4), 45-52.

Asuzu, C. (2019). Psycho-Oncology in Nigeria and Africa. In D. A. Adeyemo, D. A. Oluwole, A. O. Busari (Eds.). *Counselling and contemporary social issues in multicultural settings* (pp. 47-54). Eva-Top Communications.

Asuzu, C. C. (2018). Jimmie Holland and the development of psycho-oncology in Africa. *Psycho-Oncology, 27*(5), 1384-1384.

Asuzu, C. C., & Adenipekun, A. (2015). Correlates of depression and anxiety among the cancer patients in the radiotherapy clinic in Uch, Ibadan, Nigeria. *African Journal for the Psychological Study of Social Issues, 18*(2), 111-122.

Austin, J., Drossaert, C. H., Sanderman, R., Schroevers, M. J., & Bohlmeijer, E. T. (2021). Experiences of self-criticism and self-compassion in people diagnosed with cancer: A multimethod qualitative study. *Frontiers in Psychology*, *12*, 1-11.

Ayeni, O. A., Norris, S. A., Joffe, M., Cubasch, H., Nietz, S., Buccimazza, I., Singh, U., Čačula, S. Stopforth, L., Chen, W.C., McCormack, V.A., O'Neil, D.S., Jacobson, J,S., Neugut, A.I., Ruff, P., & Micklesfield, L. K. (2020). The multimorbidity profile of South African women newly diagnosed with breast cancer. *International Journal of Cancer*, *147*(2), 361-374.

Azubuike, S. O., Muirhead, C., Hayes, L., & McNally, R. (2018). Rising global burden of breast cancer: The case of sub-Saharan Africa (with emphasis on Nigeria) and implications for regional development: A review. *World Journal of Surgical Oncology, 16*(1), 1-13.

Babakhanloo, A., Jalilvand, M., & Shoghi, B. (2017). Effectiveness of self-talk technique and positive empathy on deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer. *International Journal of Medical Toxicology and Forensic Medicine, 7*(1), 43-53.

Bachmann, S. (2018). Epidemiology of suicide and the psychiatric perspective. *International Journal of Environmental Research and Public Health, 15*(7), 1425.

Bahcivan, O., Gutierrez-Maldonado, J., & Estapé, T. (2022). A single-session mindfulness-based swinging technique vs. cognitive disputation intervention among women with breast cancer: A pilot randomised controlled study examining the efficacy at 8-week follow-up. *Frontiers in Psychology, 13,* 1-16.

Bantjes, J., Swanevelder, S., Jordaan, E., Sampson, N. A., Petukhova, M. V., Lochner, C., Ştein, D.J., & Kessler, R. C. (2023). COVID-19 and common mental disorders among university students in South Africa. *South African Journal of Science*, *119*(1-2), 1-10.

Baqutayan, S. M. S. (2012). The effect of anxiety on breast cancer patients. *Indian Journal of Psychological Medicine, 34*(2), 119-123.

Barth, J., & Martin, C. R. (2005). Factor structure of the Hospital Anxiety and Depression Scale (HADS) in German coronary heart disease patients. *Health and Quality of Life Outcomes, 3*(1), 1–9. https://doi.org/10.1186/1477-7525-3-15

Beatty, L., & Kissane, D. (2017). Anxiety and depression in women with breast cancer. In *Cancer Forum, 41*(1), 55-61.

Beck, K. R., Tan, S. M., Lum, S. S., Lim, L. E., & Krishna, L. K. (2014). Validation of the Emotion Thermometers and Hospital Anxiety and Depression Scales in Singapore: Screening cancer patients for distress, anxiety and depression. *Asia-Pacific Journal of Clinical Oncology, 12*(2), 1-9.

Beins, B.C., & McCarthy, M.A. (2012). *Research methods and statistics*. Pearson Education Ltd.

Berhili, S., Kadiri, S., Bouziane, A., Aissa, A., Marnouche, E., Ogandaga, E., Echchikhi, Y., Touil, A., Loughlimi, H., Lahdiri, I., El-Majjaoui, S., El-Kacemi, H., Kebdani., T., & Benjaafar, N. (2017). Associated factors with psychological distress in Moroccan breast cancer patients: A cross-sectional study. *The Breast, 31*, 26-33.

Berhili, S., Ouabdelmoumen, A., Sbai, A., Kebdani, T., Benjaafar, N., & Mezouar, L. (2019). Radical mastectomy increases psychological distress in young breast cancer patients: Results of a cross-sectional study. *Clinical Breast Cancer, 19*(1), e160-e165.

Berrios, R. (2019). What is complex/emotional about emotional complexity?. *Frontiers in Psychology*, *10*, 1-11.

Bjelland, I., Dahl, A. A., Haug, T. T., & Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale: An updated literature review. *Journal of Psychosomatic Research, 52*(2), 69-77.

Bjerkeset, E., Röhrl, K., & Schou-Bredal, I. (2020). Symptom cluster of pain, fatigue, and psychological distress in breast cancer survivors: Prevalence and characteristics. *Breast Cancer Research and Treatment, 180*, 63-71.

Bolton, D., & Gillett, G. (2019). *The biopsychosocial model of health and disease: New philosophical and scientific developments*. Springer Nature.

Bolton, J. M., Walld, R., Chateau, D., Finlayson, G., & Sareen, J. (2015). Risk of suicide and suicide attempts associated with physical disorders: A population-based, balancing score-matched analysis. *Psychological Medicine, 45*(3), 495-504.

Botto, R., De Leonardis, B., Salussolia, A., Di Nardo, C., Ala, A., Torta, R., & Stanizzo, M. R. (2022). Assessment of anxiety, depression, and distress in breast cancer patients: A comparison among different phases of illness. *Health Care for Women International*, 1-13.

Brandão, T., Schulz, M. S., & Matos, P. M. (2017). Psychological adjustment after breast cancer: A systematic review of longitudinal studies. *Psycho-Oncology*, *26*(7), 917-926.

Brinton, L. A., Figueroa, J. D., Awuah, B., Yarney, J., Wiafe, S., Wood, S. N., Ansong, D., Nyarko, K., Wiafe-Addai, B., & Clegg-Lamptey, J. N. (2014). Breast cancer in sub-Saharan Africa: Opportunities for prevention. *Breast Cancer Research and Treatment*, *144*, 467-478.

Brown, G. K., Currier, G. W., Jager-Hyman, S., & Stanley, B. (2015). Detection and classification of suicidal behaviour and non-suicidal self-injury behaviour in emergency departments. *The Journal of Clinical Psychiatry, 76*(10), 1397–1403.

Bultz, B. D., Travado, L., Jacobsen, P. B., Turner, J., Borras, J. M., & Ullrich, A. W. (2015). 2014 president's plenary international Psycho-Oncology society: Moving toward cancer care for the whole patient. *Psycho-Oncology, 24*(12), 1587-1593.

Campbell-Enns, H., & Woodgate, R. (2015). The psychosocial experiences of women with breast cancer across the lifespan: A systematic review protocol. *JBI Evidence Synthesis, 13*(1), 112-121.

Centers for Disease Control and Prevention. (2022, September 26). *What is breast cancer*. https://www.cdc.gov/cancer/breast/basic_info/what-is-breast-cancer.htm

Cheng, C., Yang, C. Y., Zhou, M., Bai, J., Inder, K., & Chan, S. W. C. (2023). Validity and reliability of an Emotional Thermometer tool: An exploratory cross-sectional study. *Contemporary Nurse, 59*(3), 227-237.

Choi, E. K., Kim, I. R., Chang, O., Kang, D., Nam, S. J., Lee, J. E., Lee, S.K., Im, Y.J., Park, Y.H., Yang, J.H., & Cho, J. (2014). Impact of chemotherapy-induced alopecia distress on body image, psychosocial well-being, and depression in breast cancer patients. *Psycho-Oncology, 23*(10), 1103-1110.

Choi, J., Lee, M., Ki, M., Lee, J. Y., Song, Y. J., Kim, M., Lee, S., Park, S., & Lim, J. (2017). Risk factors for feelings of sadness and suicide attempts among cancer survivors in South Korea: Findings from nationwide cross-sectional study (KNHANES IV–VI*). BMJ Open, 7*(12), 1-9.

Christensen, A. V., Dixon, J. K., Juel, K., Ekholm, O., Rasmussen, T. B., Borregaard, B., Mols, R..E., Thrysøe, L., Thorup, C.B., & Berg, S. K. (2020). Psychometric properties of the Danish Hospital Anxiety and Depression Scale in patients with cardiac disease: Results from the DenHeart survey. *Health and quality of life outcomes, 18*, 1-13.

Civilotti, C., Acquadro Maran, D., Santagata, F., Varetto, A., & Stanizzo, M. R. (2020). The use of the Distress Thermometer and the Hospital Anxiety and Depression Scale for screening of anxiety and depression in Italian women newly diagnosed with breast cancer. *Supportive Care in Cancer, 28,* 4997-5004.

Costanzo, E. S., Lutgendorf, S. K., Mattes, M. L., Trehan, S., Robinson, C. B., Tewfik, F., & Roman, S. L. (2007). Adjusting to life after treatment: Distress and quality of life following treatment for breast cancer. *British Journal of Cancer, 97*(12), 1625-1631.

Coyne, J. C., & Van Sonderen, E. (2012). No further research needed: Abandoning the Hospital and Anxiety Depression Scale (HADS). *Journal of Psychosomatic Research, 72*(3), 173-174.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches.* Sage publications.

Cumber, S. N., Nchanji, K. N., & Tsoka-Gwegwenia, J. M. (2017). Breast cancer among women in sub-Saharan Africa: Prevalence and a situational analysis. *Southern African Journal of Gynaecological Oncology, 9*(2), 28-30.

Cvetković, J., & Cvetković, M. (2017). Investigation of the depression in breast cancer patients by computational intelligence technique. *Computers in Human Behaviour, 68,* 228-231.

Cvetković, J., & Nenadović, M. (2016). Depression in breast cancer patients. *Psychiatry Research, 240,* 343-347.

Davidson, C., Jodoin, V. D., Aubin, F., Levenson, J. A., & Rivest, J. (2021). Suicide prevention in cancer care: What are the next steps?. *Palliative & Supportive Care, 19*(4), 394-396.

De Jesús, S. J. T., Marisol, J. G. D., & Arnoldo, T. (2020). Validation of Emotional Thermometers as screening tools for Mexican patients undergoing breast biopsies. *Psychology in Russia: State of the Art, 13*(2), 96-108.

Delice, A. (2010). The Sampling Issues in Quantitative Research. *Educational Sciences: Theory and Practice*, *10*(4), 2001-2018.

Deressa, B. T., Cihoric, N., Badra, E. V., Tsikkinis, A., & Rauch, D. (2019). Breast cancer care in northern Ethiopia–cross-sectional analysis. *BMC Cancer, 19*(1), 1-6.

Ding, Y. C., Steele, L., Warden, C., Wilczynski, S., Mortimer, J., Yuan, Y., & Neuhausen, S. L. (2019). Molecular subtypes of triple-negative breast cancer in women of different race and ethnicity. *Oncotarget*, *10*(2), 198-208.

Dolbeault, S., Szporn, A., & Holland, J. C. (1999). Psycho-Oncology: Where have we been? Where are we going?. European Journal of Cancer, 35(11), 1554-1558.

Ekpe, E., Shaikh, A. J., Shah, J., Jacobson, J. S., & Sayed, S. (2019). Metastatic breast cancer in Kenya: Presentation, pathologic characteristics, and patterns—findings from a tertiary cancer center. *Journal of Global Oncology, 5*, 1-11.

Elfil, M., Ahmed, N., Alapati, A., Bahekar, R., Kandil, M., Kim, C., Schaefer, S., Tinaz, S., Patel, A.S., De-Figueiredo, J.M., Louis, E.D., & Koo, B. B. (2019). Suicidal risk and demoralization in Parkinson disease. *Journal of Neurology, 267*, 966-974.

Elzohry, A. A. M., Fikry, E. M., & Elhamed, M. F. A. (2019). Breast cancer and factors affecting survival rate: Narrative review article. *World Scientific News, 120*(2), 275-281.

Espina, C., McKenzie, F., & dos-Santos-Silva, I. (2017). Delayed presentation and diagnosis of breast cancer in African women: A systematic review. *Annals of Epidemiology, 27*(10), 659-671.

Etaga, H.O., Okoro, I., Aforka, K.F., & Ngonadi, L.O. (2021). Methods of estimating correlation coefficients in the presence of influential outlier(s). *African Journal of Mathematics and Statistics Studies, 4*(3), 157-185.

Fang, C. K., Chang, M. C., Chen, P. J., Lin, C. C., Chen, G. S., Lin, J., Hsieh, R.K., Chang, Y.F., Chen, H.W., Wu, C.L., Lin, K.C., Chiu, Y.J., & Li, Y. C. (2014). A correlational study of suicidal ideation with psychological distress, depression, and demoralization in patients with cancer. *Supportive Care in Cancer, 22,* 3165-3174.

Farahani, N. S., Bastami, M., Alemrajabi, M., Alasty, H., & Rajabi, M. (2019). Validity and reliability of the Persian version of Emotion Thermometers in Iranian advanced cancer patients. *International Journal of Cancer Management, 12*(7), 1-9.

Feng, Y., Spezia, M., Huang, S., Yuan, C., Zeng, Z., Zhang, L., Ji, X., Liu, W, Huang, B., Luo, W., Liu, B., Lei, Y., Du, S., Vuppalapati, A., Luu, H.H., Haydon, R.C., He, T.C., & Ren, G. (2018). Breast cancer development and progression: Risk factors, cancer stem cells, signalling pathways, genomics, and molecular pathogenesis. Genes & diseases, 5(2), 77-106.

Fiorentino, L., Rissling, M., Liu, L., & Ancoli-Israel, S. (2011). The symptom cluster of sleep, fatigue and depressive symptoms in breast cancer patients: Severity of the problem and treatment options. *Drug Discovery Today: Disease Models*, *8*(4), 167-173.

Foerster, M., McKenzie, F., Zietsman, A., Galukande, M., Anele, A., Adisa, C., Parham, G., Pinder, L., Schuz, J., McCormack, V., & dos-Santos-Silva, I. (2021). Dissecting the journey to breast cancer diagnosis in sub-Saharan Africa: Findings from the multicountry ABC-DO cohort study. *International Journal of Cancer*, *148*(2), 340-351.

Fradelos, E. C., Papathanasiou, I. V., Veneti, A., Daglas, A., Christodoulou, E., Zyga, S., & Kourakos, M. (2017). Psychological distress and resilience in women diagnosed with breast cancer in Greece. *Asian Pacific Journal of Cancer Prevention*, *18*(9), 2545-2550.

Gaitanidis, A., Alevizakos, M., Pitiakoudis, M., & Wiggins, D. (2018). Trends in incidence and associated risk factors of suicide mortality among breast cancer patients. *Psycho-Oncology, 27*(5), 1450-1456.

Geers, A. L., Faasse, K., Guevarra, D. A., Clemens, K. S., Helfer, S. G., & Colagiuri, B. (2021). Affect and emotions in placebo and nocebo effects: What do we know so far?. *Social and Personality Psychology Compass*, *15*(1), 1-19.

Gibbons, A., Groarke, A., & Sweeney, K. (2016). Predicting general and cancer-related distress in women with newly diagnosed breast cancer. *BMC Cancer*, *16*(1), 1-9.

Gorniewicz, J., Floyd, M., Krishnan, K., Bishop, T. W., Tudiver, F., & Lang, F. (2017). Breaking bad news to patients with cancer: A randomized control trial of a brief communication skills training module incorporating the stories and preferences of actual patients. *Patient Education and Counseling, 100*(4), 655-666.

Grassi, L., & Watson, M. (2012). Psychosocial care in cancer: an overview of psychosocial programmes and national cancer plans of countries within the international federation of Psycho-Oncology societies. *Psycho-Oncology, 21*(10), 1027-1033.

Grassi, L., Caruso, R., Sabato, S., Massarenti, S., & Nanni, M. G. (2015). Psychosocial screening and assessment in oncology and palliative care settings. *Frontiers in Psychology*, *5* (1485), 1-6.

Gunnarsdottir, S., Thorvaldsdottir, G. H., Fridriksdottir, N., Bjarnason, B., Sigurdsson, F., Skulason, B., & Smari, J. (2011). The psychometric properties of the Icelandic version of the Distress Thermometer and problem list. *Psycho-Oncology*, *21*(7), 730-736.

Hagezom, H. M., Amare, T., Hibdye, G., & Demeke, W. (2021). Magnitude and associated factors of suicidal ideation among cancer patients at Ayder comprehensive specialized hospital, Mekelle, Ethiopia, 2019: Cross-sectional study. *Cancer Management and Research*, *13,* 4341-4350.

Harju, E., Michel, G., & Roser, K. (2019). A systematic review on the use of the emotion thermometer in individuals diagnosed with cancer. *Psycho-Oncology, 28*(9), 1803-1818.

Harmer, B., Lee, S., Duong, T. V. H., & Saadabadi, A. (2020). *Suicidal ideation*. StatPearls Publishing.

Hashemi, S. M., Rafiemanesh, H., Aghamohammadi, T., Badakhsh, M., Amirshahi, M., Sari, M., Behnamfar, N., & Roudini, K. (2020). Prevalence of anxiety among breast cancer patients: A systematic review and meta-analysis. *Breast Cancer, 27*, 166-178.

Hassan, M.R., Shah, S.A., Ghazi1, H.F., Mujar, N.M.M., SamsurI, M.F, & Baharom, N. (2015). Anxiety and depression among breast cancer patients in an urban setting in Malaysia. *Asian Pacific Journal of Cancer Prevention, 16*(9), 4031-4035.

Heppner, P. P., Wampold, B. E., Owen, J., & Wang, K. T. (2016). *Research design in counselling*. Cengage Learning.

Hirai, K., Shiozaki, M., Motooka, H., Arai, H., Koyama, A., Inui, H., & Uchitomi, Y. (2008). Discrimination between worry and anxiety among cancer patients: Development of a brief cancer-related worry inventory. *Psycho-Oncology, 17*(12), 1172-1179.

Holland, J. C. (2002). History of Psycho-Oncology: Overcoming attitudinal and conceptual barriers. *Psychosomatic Medicine, 64*(2), 206-221.

Holland, J. C. (2018). Psycho-Oncology: Overview, obstacles and opportunities. *Psycho-Oncology, 27*(5), 1364-1376.

Holland, J. C., Andersen, B., Breitbart, W. S., Compas, B., Dudley, M. M., Fleishman, S., Fulcher, C.D., Greenberg, D.B., Greiner, C.B., Handzo, G.F., Hoofring, L., Jacobsen, P.B., Knight, S.J., Learson, K., Levy, M.H., Loscalzo, M.J., Manne, S.,

McAllister-Black, R., Riba, M.B., Roper, K., Valentine, A.D., Wagner, L.I., & Zevon, M. A. (2010). Distress management. *Journal of the National Comprehensive Cancer Network, 8*(4), 448-485.

Holland, J.C., & Bultz, B.D. (2007). The National Comprehensive Cancer Network [NCCN] guideline for distress management: A case for making distress the sixth vital sign. *Journal of the National Comprehensive Cancer Network, 5*(1), 3-7.

Hong, Y. T., Lin, Y. A., Pan, Y. X., Lin, J. L., Lin, X. J., Zhang, J., & Huang, F. F. (2022). Understanding factors influencing demoralization among cancer patients based on the bio-psycho-social model: A systematic review. *Psycho-Oncology*, *31*(12), 2036-2049.

Horwitz, A. V., Wakefield, J. C., & Lorenzo-Luaces, L. (2016). History of depression. In DeRubeis, R.J. & Strunk D.R (Eds.), *The Oxford handbook of mood disorders* (pp.11-23). Oxford University Press.

Hung, M., Bounsanga, J., & Voss, M. W. (2017). Interpretation of correlations in clinical research. *Postgraduate Medicine, 129*(8), 902-906.

Hyland, K. A., Hoogland, A. I., Gonzalez, B. D., Nelson, A. M., Lechner, S., Tyson, D. M., Barata, A., Gomez, M.F., Antoni, M.H., Small, B., Meade, C.D., Jacobsen, P.B., & Jim, H. S. (2019). Evaluation of the psychometric and structural properties of the Spanish version of the Hospital Anxiety and Depression Scale in Latina cancer patients. *Journal of Pain and Symptom Management, 58*(2), 289-296.

Iddrisu, M., Aziato, L., & Dedey, F. (2020). Psychological and physical effects of breast cancer diagnosis and treatment on young Ghanaian women: A qualitative study. *BMC Psychiatry, 20*, 1-9.

Ilic, I., Babic, G., Dimitrijevic, A., Ilic, M., & Sipetic Grujicic, S. (2021). Internal consistency and validity of the Hospital Anxiety and Depression Scale (HADS) in women with abnormal pap smear in Serbia. *Women & Health, 61*(4), 363-371.

Interian, A., Chesin, M., Kline, A., Miller, R., St. Hill, L., Latorre, M., Shcherbakov, A., King, A., & Stanley, B. (2018). Use of the Columbia-Suicide Severity Rating Scale (C-SSRS) to classify suicidal behaviours. *Archives of Suicide Research, 22*(2), 278-294.

Iwatani, T., Matsuda, A., Kawabata, H., Miura, D., & Matsushima, E. (2012). Predictive factors for psychological distress related to diagnosis of breast cancer. *Psycho-Oncology, 22*(3), 523-529.

Jacobsen, P.B., Donovan, K.A., Trask, P.C., Fleishman, S.B., Zabora, J., Baker, F., & Holland, J.C. (2005). Screening for psychological distress in ambulatory cancer patients. *Cancer, 103*(7), 1494-1502.

Ji, X., Cummings, J. R., Gilleland Marchak, J., Han, X., & Mertens, A. C. (2020). Mental health among nonelderly adult cancer survivors: A national estimate. *Cancer, 126*(16), 3768-3776.

Joko-Fru, W.Y., Griesel, M., Mezger, N.C.S., Hammerl, L., Seraphin, T.P., Feuchtner, J., N'da, H.W.G., Mathewos, A., Kamate, B., Malanda, J.N., Gnangnon, F.H.R., Chesumbai, G.C., Korir, A., Lorenzoni, C., Zietsman, A., Borok, M.Z., Liu, B.,

Thomssen, C., McGale, P., Jemal, A., Parkin, D.M., & Kantelhardt, E.J. (2021). Breast cancer diagnostics, therapy, and outcomes in sub-Saharan Africa: A population-based registry study. *Journal of the National Comprehensive Cancer Network, 19*(13), 75-85.

Julian, L. J. (2011). Measures of anxiety: State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Hospital Anxiety and Depression Scale-Anxiety (HADS-A). *Arthritis Care & Research, 63*(11), 1-11. https://doi.org/10.1002/acr.20561

Kacel, E. L., Pereira, D. B., & Estores, I. M. (2019). Advancing supportive oncology care via collaboration between Psycho-Oncology and integrative medicine. *Supportive Care in Cancer, 27*, 3175-3178.

Kagee, A., Roomaney, R., & Knoll, N. (2018). Psychosocial predictors of distress and depression among South African breast cancer patients. *Psycho-Oncology, 27*(3), 908-914.

Kangmennaang, J., Mkandawire, P., & Luginaah, I. (2017). Breast cancer screening among women in Namibia: Explaining the effect of health insurance coverage and access to information on screening behaviours. *Global Health Promotion, 26*(3), 50-61.

Karawekpanyawong, N., Kaewkitikul, K., Maneeton, B., Maneeton, N., & Siriaree, S. (2021). The prevalence of depressive disorder and its association in Thai cervical cancer patients. *Plos One, 16*(6), 1-16.

Kazlauskiene, J., Navickas, A., Lesinskiene, S., & Bulotiene, G. (2022). Factors affecting suicidal thoughts in breast cancer patients. *Medicina, 58*(7), 863- 873.

Khang, D., Rim, H. D., & Woo, J. (2013). The Korean version of the body image scale-reliability and validity in a sample of breast cancer patients. *Psychiatry Investigation, 10*(1), 26-33.

Kim, J. M., Jang, J. E., Stewart, R., Kim, S. Y., Kim, S. W., Kang, H. J., Shin, I. S, Park, M. H, Yoon, J.H., & Yoon, J. S. (2013). Determinants of suicidal ideation in patients with breast cancer. *Psycho-Oncology, 22*(12), 2848-2856.

Kim, O., & Heo, N. (2022). Self-management support with yoga on psychological health and quality of life for breast cancer survivors. *International Journal of Environmental Research and Public Health*, *19*(7), 1-10.

Ko, K. T., Lin, C. J., Pi, S. H., Li, Y. C., & Fang, C. K. (2018). Demoralization syndrome among elderly patients with cancer disease. *International Journal of Gerontology*, *12*(1), 12-16.

Koçak, A. T., Arslan, S., & İlik, Y. (2022). Posttreatment experiences of breast cancer survivors in Turkey: A qualitative study. *Seminars in Oncology Nursing*, *38*(6), 1-6.

Kolva, E., Hoffecker, L., & Cox-Martin, E. (2019). Suicidal ideation in patients with cancer: A systematic review of prevalence, risk factors, intervention and assessment. *Palliative & supportive care*, *18*(2), 206-219.

Konieczny, M., Cipora, E., Sygit, K., & Fal, A. (2020). Quality of life of women with breast cancer and socio-demographic factors. *Asian Pacific Journal of Cancer Prevention, 21*(1), 185-193.

Krebber, A. M. H., Buffart, L. M., Kleijn, G., Riepma, I. C., De Bree, R., Leemans, C. R., Becker, A., van Straten, A., Cuijpers, P., & Verdonck-de Leeuw, I. (2014). Prevalence of depression in cancer patients: A meta-analysis of diagnostic interviews and self-report instruments. *Psycho-Oncology, 23*(2), 121-130.

Kreitler, S. (2019). *Psycho-Oncology for the clinician.* Springer.

Kulkarni, S. (2022). *Prevalence of depression, anxiety, and suicidality among breast cancer patients at Kenyatta National Hospital, Kenya* [Doctoral dissertation, University of Nairobi].

Kye, S. Y., & Park, K. (2017). Suicidal ideation and suicidal attempts among adults with chronic diseases: A cross-sectional study. *Comprehensive Psychiatry, 73*, 160-167.

Lam, W. W., Shing, Y. T., Bonanno, G. A., Mancini, A. D., & Fielding, R. (2012). Distress trajectories at the first-year diagnosis of breast cancer in relation to 6 years survivorship. *Psycho-Oncology, 21*(1), 90-99.

Lau, R., Morse, C. A., & Macfarlane, S. (2010). Psychological factors among elderly women with suicidal intentions or attempts to suicide: A controlled comparison. *Journal of Women & Aging, 22*(1), 3-14.

Lehman, B. J., David, D. M., & Gruber, J. A. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and Personality Psychology Compass*, *11*(8), 1-17.

Lemieux, J., Maunsell, E., & Provencher, L. (2008). Chemotherapy-induced alopecia and effects on quality of life among women with breast cancer: A literature review. *Psycho-Oncology, 17*(4), 317-328.

Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-based Dentistry, 7*(1), 24-25.

Levine, E. G., Aviv, C., Yoo, G., Ewing, C., & Au, A. (2009). The benefits of prayer on mood and well-being of breast cancer survivors. *Supportive Care in Cancer*, *17*, 295-306.

Li, L., Yang, Y., He, J., Yi, J., Wang, Y., Zhang, J., & Zhu, X. (2015). Emotional suppression and depressive symptoms in women newly diagnosed with early breast cancer. *BMC Women's Health, 15*, 1-8.

Licková, K., Čoček, A., Ambruš, M., Soumarová, R., Vránová, J., Klézl, P., Mitchell, AJ., Raudenská, J., & Javůrková, A. (2021). Rapid screening of depression and anxiety in cancer patients: Interview validation of Emotion Thermometers. *Asian Journal of Psychiatry, 65*, 1-8.

Lim, C. C., Devi, M. K., & Ang, E. (2011). Anxiety in women with breast cancer undergoing treatment: A systematic review. *International Journal of Evidence-Based Healthcare*, *9*(3), 215-235.

Lindh, Å. U., Waern, M., Beckman, K., Renberg, E. S., Dahlin, M., & Runeson, B. (2018). Short term risk of non-fatal and fatal suicidal behaviours: The predictive validity of the Columbia-Suicide Severity Rating Scale in a Swedish adult psychiatric population with a recent episode of self-harm. *BMC Psychiatry, 18,* 1-9.

Liu, D. (2022, February 18). *What is metastatic breast cancer?* Cancer Centre. https://www.cancercenter.com/cancer-types/breast-cancer/types/rare-breast-cancer-types/metastatic-breast-cancer

Lloyd, M., Sugden, N., Thomas, M., McGrath, A., & Skilbeck, C. (2023). The structure of the Hospital Anxiety and Depression Scale: Theoretical and methodological considerations. *British Journal of Psychology, 114*(2), 457-475.

Logan, S., Perz, J., Ussher, J. M., Peate, M., & Anazodo, A. (2019). Systematic review of fertility-related psychological distress in cancer patients: Informing on an improved model of care. *Psycho-Oncology, 28*(1), 22-30.

Lucas, M. S., Brawner, B. M., Hardie, T. L., Beacham, B., Paidipati, C., Diaz, M., Lauer, A., Hobbie, W.L., & Deatrick, J. A. (2015). Assessing suicidal ideation and behaviours among survivors of childhood brain tumours and their mothers during socio-behavioural research. *Oncology Nursing Forum, 42*(5), 319-329.

Marques, L. (2020, October 27). *Do I have anxiety or worry: What's the difference?* Harvard Health Publishing. https://www.health.harvard.edu/blog/do-i-have-anxiety-or-worry-whats-the-difference-2018072314303

Mars, B., Burrows, S., Hjelmeland, H., & Gunnell, D. (2014). Suicidal behaviour across the African continent: A review of the literature. *BMC Public Health, 14,* 1-14.

Martínez, P., Galdón, M. J., Andreu, Y., & Ibáñez, E. (2013). The Distress Thermometer in Spanish cancer patients: Convergent validity and diagnostic accuracy. *Supportive Care in Cancer, 21*, 3095-3102.

Martino, M. L., Lemmo, D., Gargiulo, A., Barberio, D., Abate, V., Avino, F., & Tortoriello, R. (2019). Under fifty women and breast cancer: Narrative markers of meaning-making in traumatic experience. *Frontiers in Psychology, 10* (618), 1-12.

Massee´ R. (2000) Qualitative and quantitative analyses of psychological distress: Methodological complementarity and ontological incommensurability. *Qualitative Health Research, 10*, 411–423.

Maters, G. A., Sanderman, R., Kim, A. Y., & Coyne, J. C. (2013). Problems in cross-cultural use of the Hospital Anxiety and Depression Scale: "No butterflies in the desert". *PLoS One, 8*(8), 1-11.

McFarland, D. C., & Holland, J. C. (2016). The management of psychological issues in oncology. *Clinical Advances in Hematology & Oncolology, 8*, 13-16.

Miaja, M., Platas, A., & Martinez-Cannon, B. A. (2017). Psychological impact of alterations in sexuality, fertility, and body image in young breast cancer patients and their partners. *Revista de Investigacion Clinica, 69*(4), 204-209.

Miaskowski, C., Dunn, L., Ritchie, C., Paul, S. M., Cooper, B., Aouizerat, B. E., Alexander, K., Skerman, H., & Yates, P. (2015). Latent class analysis reveals distinct subgroups of patients based on symptom occurrence and demographic and clinical characteristics. *Journal of Pain and Symptom Management, 50*(1), 28-37.

Milligan, F. (2022). Suicide and women living with and beyond a breast cancer diagnosis. *British Journal of Nursing, 31*(18), 954-960.

Mitchell, A. J. (2010). Short screening tools for cancer-related distress: A review and diagnostic validity meta-analysis. *Journal of the National Comprehensive Cancer Network, 8*(4), 487-494.

Mitchell, A. J., Baker-Glenn, E. A., Granger, L., & Symonds, P. (2010a). Can the Distress Thermometer be improved by additional mood domains? Part I. Initial validation of the Emotion Thermometers tool. *Psycho-Oncology,19*(2), 125-133.

Mitchell, A. J., Baker-Glenn, E. A., Park, B., Granger, L., & Symonds, P. (2010b). Can the Distress Thermometer be improved by additional mood domains? Part II. What is the optimal combination of Emotion Thermometers?. *Psycho-Oncology: Journal of the Psychological, Social and Behavioural Dimensions of Cancer*, *19*(2), 134-140.

Mncwabe, N., Hlongwana, K. W., & Ginindza, T. G. (2021). An ethnographic study exploring the experiences of patients living with cancer illness in support group settings in KwaZulu-Natal, South Africa. *African Journal of Primary Health Care & Family Medicine, 13*(1), 2303.

Montazeri, A., Vahdaninia, M., Ebrahimi, M., & Jarvandi, S. (2003). The Hospital Anxiety and Depression Scale (HADS): Translation and validation study of the Iranian version. *Health and Quality of Life Outcomes, 1*(1), 1-5.

Moulton, C. D., Hopkins, C. W., Mohamedali, Z., & Powell, N. (2019). Out of sight, out of mind: The limitations of the Hospital Anxiety and Depression Scale in inflammatory bowel disease. *Inflammatory Bowel Diseases*, *25*(8), e100.

Mulenga, E., & Mutanga, E. (2021). Challenges experienced by cancer patients receiving treatment at Oshakati oncology clinic, Oshana region, Namibia. *International Journal of Advanced Nursing Studies, 10* (2), 19-22.

Mundt, J. C., Greist, J. H., Gelenberg, A. J., Katzelnick, D. J., Jefferson, J. W., & Modell, J. G. (2010). Feasibility and validation of a computer automated Columbia-Suicide Severity Rating Scale using interactive voice response technology. *Journal of Psychiatric Research, 44*(16), 1224–1228

Mwafufya, A.T. (2018). *Psychological distress, anxiety and depression of men living with prostate cancer in Windhoek* [Unpublished master's thesis]. University of Namibia.

Mystakidou, K., Tsilika, E., Parpa, E., Katsouda, E., Galanos, A., & Vlahos, L. (2004). The Hospital Anxiety and Depression Scale in Greek cancer patients: Psychometric analyses and applicability. *Supportive Care in Cancer, 12*, 821-825.

Nakashole, P. (2023, June 1). Namibia's suicide rate among the highest in Africa. *The Namibian.* https://namibian.com.na/namibia-has-highest-suicide-rate-in-africa/

Nanni, M. G., Caruso, R., Travado, L., Ventura, C., Palma, A., Berardi, A. M., ... & Grassi, L. (2018). Relationship of demoralization with anxiety, depression, and quality of life: A southern European study of Italian and Portuguese cancer patients. *Psycho-Oncology, 27*(11), 2616-2622.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research, 19*(2), 129-132.

Ndjaleka, H.N. (2018). *Psychosocial experiences of adolescents diagnosed with cancer in Windhoek* [Unpublished master's thesis]. University of Namibia.

Negussie, M., Teferra, S., & Hanlon, C. (2019). Suicidal ideation and attempt among alcohol use disorder patients attending addiction clinic at Amanuel mental specialized hospital, Addis Ababa, Ethiopia. *Medical & Clinical Research, 4*(3), 1-10.

Ng, C. G., Mohamed, S., Kaur, K., Sulaiman, A. H., Zainal, N. Z., Taib, N. A., & MyBCC Study group. (2017). Perceived distress and its association with depression and anxiety in breast cancer patients. *PloS One, 12*(3), 1-10.

Nguyen, T. Q., Do, T. M., & Pham, T. A. (2021). Screening for psychological distress in Vietnamese cancer patients: An evaluation of the distress thermometer. *Cancer Medicine, 10*(21), 7793-7803.

Nigussie, K., Tesfaye, D., Abdisa, L., Tolosa, L., Bete, T., Gemechu, K., Negash, A., Sertsu, A., Dereje, J., Debele, G.R., & Dechasa, D. B. (2023). Suicidal ideation, attempt and associated factors among people with cancer attending cancer centre, eastern Ethiopia. *Frontiers in Psychiatry, 14*, 1-11.

Nilsson, M. E., Suryawanshi, S., Gassmann-Mayer, C., Dubrava, S., McSorley, P., & Jiang, K. (2013). Columbia–Suicide Severity Rating Scale scoring and data analysis guide. *CSSRS Scoring Version, 2*, 1-13.

O'Neill, A. (2023, October 20). *Age structure in Namibia 2022*. Statista. https://www.statista.com/statistics/510203/age-structure-in-namibia/

Obispo-Portero, B., Cruz-Castellanos, P., Jiménez-Fonseca, P., Rogado, J., Hernandez, R., Castillo-Trujillo, O. A., Asensio-Martínez, E., González-Moya, M., Carmona-Bayonas, A., & Calderon, C. (2022). Anxiety and depression in patients with advanced cancer during the COVID-19 pandemic. *Supportive Care in Cancer, 30*(4), 3363-3370.

Ogu, A. C., Kagwe, C., & Okpalaenwe, E. Influence of interpersonal relationship on psychosocial well-being of consecrated catholic women religious in Ibadan, Nigeria. *Journal of Sociology, Psychology & Religious Studies, 4* (1), 1-9.

Okyere, J., Dey, N. E. Y., Owusu Ansah, K., Thywill, S. E., & Duodu, P. A. (2023). Prevalence and determinants of breast self-examination practices among women in their reproductive age in Namibia: An analysis of the 2013 Namibia demographic and health survey. *BMC Public Health, 23*(1), 1-12.

Opadola, O., Alatishe, T., Suleiman, B., Opadola, O., Ojedokun, S., & Oladele, O. (2022). Prevalence of major depressive disorder in patients diagnosed with breast cancer in southwest Nigeria. *International Research Journal of Oncology, 6*(4), 18-25.

Opoku, S. Y., Benwell, M., & Yarney, J. (2012). Knowledge, attitudes, beliefs, behaviour and breast cancer screening practices in Ghana, West Africa. *Pan African Medical Journal, 11*(1), 1-10.

Ownby, K. K. (2019). Use of the distress thermometer in clinical practice. *Journal of the Advanced Practitioner in Oncology, 10*(2), 175-179.

Pallant, J. (2011). SPSS survival manual: A step by step guide to data analysis using SPSS (4th ed.). Allen & Unwin.

Park, E. M., Gelber, S., Rosenberg, S. M., Seah, D. S., Schapira, L., Come, S. E., & Partridge, A. H. (2018). Anxiety and depression in young women with metastatic breast cancer: A cross-sectional study. *Psychosomatics, 59*(3), 251-258.

Parpiyeva, O. R., & Mirzajonova, E. T. (2022). The role of Psycho-Oncology in the treatment of cancer patients. *Texas Journal of Medical Science, 9*, 14-17.

Penberthy, J. K., Stewart, A. L., Centeno, C. F., & Penberthy, D. R. (2023). Psychological aspects of breast cancer. *Psychiatric Clinics, 41*, 550-570.

Pérez-Fortis, A., Schroevers, M. J., Fleer, J., Alanís-López, P., Veloz-Martínez, M. G., Ornelas-Mejorada, R. E. Robbert, S., Adelita, R.V., & Sosa, J. J. S. (2017). Psychological burden at the time of diagnosis among Mexican breast cancer patients. *Psycho-Oncology, 26*(1), 133-136.

Perez-Tejada, J., Labaka, A., Pascual-Sagastizabal, E., Garmendia, L., Iruretagoyena, A., & Arregi, A. (2019). Predictors of psychological distress in breast cancer survivors: A biopsychosocial approach. *European Journal of Cancer Care, 28*(6), 1-9.

Peters, L., Brederecke, J., Franzke, A., de Zwaan, M., & Zimmermann, T. (2020). Psychological distress in a sample of inpatients with mixed cancer—a cross-sectional study of routine clinical data. *Frontiers in Psychology, 11*, 1-13.

Pfaendler, K. S., Wenzel, L., Mechanic, M. B., & Penner, K. R. (2015). Cervical cancer survivorship: long-term quality of life and social support. *Clinical Therapeutics, 37*(1), 39-48.

Phoosuwan, N., & Lundberg, P. C. (2022). Psychological distress and health-related quality of life among women with breast cancer: A descriptive cross-sectional study. *Supportive Care in Cancer, 30,* 3177–3186.

Pierrisnard, C., Baciuchka, M., Mancini, J., Rathelot, P., Vanelle, P., & Montana, M. (2018). Body image and psychological distress in women with breast cancer: A French online survey on patients' perceptions and expectations. *Breast Cancer, 25,* 303-308.

Pilevarzadeh, M., Amirshahi, M., Afsargharehbagh, R., Rafiemanesh, H., Hashemi, S. M., & Balouchi, A. (2019). Global prevalence of depression among breast cancer patients: a systematic review and meta-analysis. *Breast Cancer Research and Treatment, 176,* 519-533.

Posner, K., Brown, G. K., Stanley, B., Brent, D. A., Yershova, K. V., Oquendo, M. A., Currier, G.W., Melvin, G.A., Greenhill, L., Shen, S., & Mann, J. J. (2011). The Columbia–Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. *American Journal of Psychiatry, 168*(12), 1266-1277.

Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences, 6*(2), 1-5.

Ramutumbu, N. J. (2021). *Psychosocial care and support strategies for improving cancer services at the hospitals in Limpopo Province* [Doctoral dissertation, University of Venda].

Rayne, S., Schnippel, K., Kruger, D., Benn, C. A., & Firnhaber, C. (2019). Delay to diagnosis and breast cancer stage in an urban South African breast clinic. *South African Medical Journal, 109*(3), 159-163.

Reich, M., Lesur, A., & Perdrizet-Chevallier, C. (2008). Depression, quality of life and breast cancer: a review of the literature. *Breast Cancer Research and Treatment, 110*, 9-17.

Reilly, R. (2007). Breast cancer. *xPharm: The Comprehensive Pharmacology Reference*, 1-9.

Rezaei, M., Elyasi, F., Janbabai, G., Moosazadeh, M., & Hamzehgardeshi, Z. (2016). Factors influencing body image in women with breast cancer: A comprehensive literature review. Iranian Red Crescent Medical Journal, 18(10), 1-9.

Rich, R. C., Brians, C. L., Manheim, J. B., & Willnat, L. (2011). *Empirical Political Analysis: Quantitative and Qualitative Research Methods* (8th ed.). Longman.

Ridner, S. H. (2004). Psychological distress: Concept analysis. *Journal of Advanced Nursing, 45*(5), 536-545.

Rodgers, J., Martin, C. R., Morse, R. C., Kendell, K., & Verrill, M. (2005). An investigation into the psychometric properties of the Hospital Anxiety and Depression Scale in patients with breast cancer. *Health and Quality of Life Outcomes, 3*, 1-12.

Rodin, G., Katz, M., Lloyd, N., Green, E., Mackay, J. A., Wong, R. K. S., & Supportive Care Guidelines Group of Cancer Care Ontario. (2007). Treatment of depression in cancer patients. *Current Oncology, 14*(5), 180-188.

Romeo, A., Di Tella, M., Ghiggia, A., Tesio, V., Gasparetto, E., Stanizzo, M. R., ... & Castelli, L. (2019). The traumatic experience of breast cancer: Which factors can relate to the post-traumatic outcomes?. *Frontiers in Psychology, 10*, 1-9.

Saad, A. M., Gad, M. M., Al-Husseini, M. J., AlKhayat, M. A., Rachid, A., Alfaar, A. S., & Hamoda, H. M. (2019). Suicidal death within a year of a cancer diagnosis: A population-based study. *Cancer, 125*(6), 972-979.

Sadock, B.J., Sadock, V.A., and Ruiz, P. (2015). *Kaplan & Sadock's Synopsis of Psychiatry* (11th ed.). Wolters Kluwer.

Salomo, S. (2015). *Experiences of men diagnosed with prostate cancer in the four northern regions of Namibia* [Unpublished master's thesis]. University of Namibia.

Sauer, C., Grapp, M., Bugaj, T.J., & Maatouk, I. (2022). Suicidal ideation in patients with cancer: Its prevalence and results of structural equation modelling. *European Journal of Cancer Care, 31*, 1-10. https://doi.org/10.1111/ecc.13650

Savioni, L., Triberti, S., Durosini, I., Sebri, V., & Pravettoni, G. (2022). Cancer patients' participation and commitment to psychological interventions: A scoping review. *Psychology & Health, 37*(8), 1022-1055.

Schapira, L., Zheng, Y., Gelber, S. I., Poorvu, P., Ruddy, K. J., Tamimi, R. M., Peppercorn, J., Come, S.E., Borges, V.F., Partridge, A.H., & Rosenberg, S. M.

(2022). Trajectories of fear of cancer recurrence in young breast cancer survivors. *Cancer, 128(2),* 335-343.

Scheel, J. R., Anderson, S., Foerster, M., Galukande, M., & McCormack, V. (2018). Factors contributing to late-stage breast cancer presentation in sub-Saharan Africa. *Current Breast Cancer Reports, 10,* 142-147.

Schubart, J. R., Emerich, M., Farnan, M., Stanley Smith, J., Kauffman, G. L., & Kass, R. B. (2014). Screening for psychological distress in surgical breast cancer patients. *Annals of Surgical Oncology, 21,* 3348-3353.

Şengül, M.C.B., Kaya, V., Şen, C.A., & Kaya, K. (2014). Association between suicidal ideation and behaviour, and depression, anxiety, and perceived social support in cancer patients. *Medical Science Monitor, 20*, 329-336.

Sharma, G. N., Dave, R., Sanadya, J., Sharma, P., & Sharma, K. (2010). Various types and management of breast cancer: An overview. *Journal of Advanced Pharmaceutical Technology & Research, 1*(2), 109-126.

Sharma, N., & Purkayastha, A. (2017). Impact of radiotherapy on psychological, financial, and sexual aspects in postmastectomy carcinoma breast patients: A prospective study and management. *Asia-Pacific Journal of Oncology Nursing, 4*(1), 69-76.

Sharma, R. (2021). Breast cancer burden in Africa: Evidence from GLOBOCAN 2018. *Journal of Public Health, 43*(4), 763-771.

Shi, J., Yang, Y., Guo, Y., & Ren, W. (2022). Suicide risk among female breast cancer survivors: A population–based study. *Frontiers in Oncology, 12*, 1-12.

Shino, E.N. (2010). *Psychological distress, quality of life, coping and adjustments: a comparison of Oshiwambo-speaking and Sesotho speaking patients with breast cancer and/or cervical cancer* [Doctoral dissertation, University of the Free State].

Silva, S., Paredes, T., Teixeira, R. J., Brandão, T., Dimitrovová, K., Marques, D., Sousa, J., Leal, M., Dias, A., Neves, C., Marques, G., & Amaral, N. (2023, October). Emotional distress in Portuguese cancer patients: The use of the Emotion Thermometers (ET) screening tool. *Healthcare, 11*(19), 1-13.

Sinha, S., Bhatia, R., Narasimamurthy, M., Rayne, S., & Grover, S. (2022). Epidemiology of Breast Cancer Presentation in Botswana, South Africa, and the United States. *Journal of Surgical Research, 279*, 533-539.

Smarr, K. L., & Keefer, A. L. (2011). Measures of depression and depressive symptoms: beck depression inventory-II (BDI-II), centre for epidemiologic studies depression scale (CES-D), geriatric depression scale (GDS), hospital anxiety and depression scale (HADS), and patient health questionnaire-9 (PHQ-9). *Arthritis Care & Research*, *63*(S11), S454-S466.

Snaith, R. P., & Zigmond, A. S. (1986). The Hospital Anxiety and Depression Scale. *British Medical Journal (Clinical research ed.), 292*(6516), 344.

Society for Implementation Science in Nutrition. (2018, May). Applying ethical principles within implementation research. https://www.implementationnutrition.org/APPLYING-ETHICAL-PRINCIPLES-WITHING-IMPLENTATION-RESEARCH/

Srivastava, V., Ansari, M. A., Kumar, A., Shah, A. G., Meena, R. K., Sevach, P., & Singh, O. P. (2016). Study of anxiety and depression among breast cancer patients from north India. *Clinical Psychiatry, 2*,1-4.

Stecher, N. E., Cohen, M. A., & Myburgh, E. J. (2019). Experiences of women in survivorship following mastectomy in the Cape Metropole. *South African Journal of Surgery*, *57*(1), 19-23.

Stern, A. F. (2014). The Hospital Anxiety and Depression Scale. *Occupational Medicine*, *64*(5), 393-394.

Stewart-Knight, K., Parry, R., Abey, A., & Seymour, J. (2012). Does the distress thermometer work? A systematic review of the evidence for its use and validity. *BMJ Supportive & Palliative Care*, *2*(1), 39-45.

Stringaris, A. (2017). What is depression?. *Journal of Child Psychology and Psychiatry, 58*(12), 1287-1289.

Suls, J., & Rothman, A. (2004). Evolution of the biopsychosocial model: Prospects and challenges for health psychology. *Health Psychology*, *23*(2), 119-125.

Syrowatka, A., Motulsky, A., Kurteva, S., Hanley, J. A., Dixon, W. G., Meguerditchian, A. N., & Tamblyn, R. (2017). Predictors of distress in female breast cancer survivors: A systematic review. *Breast Cancer Research and Treatment, 165*, 229-245.

Tang, L., He, Y., Pang, Y., Su, Z., Zhou, Y., Wang, Y., Lu, Y., Jiang, Y., Han, X., Song, L., Wang, Y., Li, Z., Lv, X., Wang, Y., Yao, J., Liu, X., Zhou, X., He, S., Zang,

Y., Song, L., Li, J., & Wang, B. (2022). Suicidal ideation in advanced cancer patients without major depressive disorder. *Psycho-Oncology, 31*(11), 1941-1950.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2,* 53-55.

Tetteh, D. A., & Faulkner, S. L. (2016). Sociocultural factors and breast cancer in sub-Saharan Africa: Implications for diagnosis and management. *Women's Health, 12*(1), 147-156.

Thakur, M., Sharma, R., Mishra, A. K., Singh, K., & Kar, S. K. (2022). Psychological distress and body image disturbances after modified radical mastectomy among breast cancer survivors: A cross-sectional study from a tertiary care centre in North India. *The Lancet Regional Health-Southeast Asia, 7,* 1-8.

Thom, R., Hogan, C., & Hazen, E. (2020). Suicide risk screening in the hospital setting: A review of brief validated tools. *Psychosomatics, 61*(1), 1-7.

Thomas, A. S., Kidwell, K. M., Oppong, J. K., Adjei, E. K., Osei-Bonsu, E., Boahene, A., Jiagge, E, Gyan, K., & Merajver, S. D. (2017). Breast cancer in Ghana: Demonstrating the need for population-based cancer registries in low-and middle-income countries. *Journal of Global Oncology, 3*(6), 765-772.

Thomas, B. C., Pandey, M., Ramdas, K., & Nair, M. K. (2002). Psychological distress in cancer patients: Hypothesis of a distress model. *European Journal of Cancer Prevention, 11*(2), 179-185.

Tjiroze, M. (2013). *Distress and coping in adult family caregivers of cancer patients in Namibia* [Unpublished master's thesis]. University of Namibia.

Toledo, G., Ochoa, C. Y., & Farias, A. J. (2021). Religion and spirituality: Their role in the psychosocial adjustment to breast cancer and subsequent symptom management of adjuvant endocrine therapy. *Supportive Care in Cancer, 29,* 3017-3024.

Travado, L., Bultz, B. D., Ullrich, A., Asuzu, C. C., Turner, J., Grassi, L., & Jacobsen, P. (2017). 2016 President's plenary international Psycho-Oncology Society: Challenges and opportunities for growing and developing psychosocial oncology programmes worldwide. *Psycho-Oncology, 26*(9), 1231-1238.

Trevino, K. M., Balboni, M., Zollfrank, A., Balboni, T., & Prigerson, H. G. (2014). Negative religious coping as a correlate of suicidal ideation in patients with advanced cancer. *Psycho-Oncology*, *23*(8), 936-945.

Tsaras, K., Papathanasiou, I. V., Mitsi, D., Veneti, A., Kelesi, M., Zyga, S., & Fradelos, E. C. (2018). Assessment of depression and anxiety in breast cancer patients: Prevalence and associated factors. *Asian Pacific Journal of Cancer Prevention: APJCP*, *19*(6), 1661-1669.

Usta, Y. Y. (2012). Importance of social support in cancer patients. *Asian Pacific Journal of Cancer Prevention*, *13*(8), 3569-3572.

Vahdaninia, M., Omidvari, S., & Montazeri, A. (2010). What do predict anxiety and depression in breast cancer patients? A follow-up study. *Social Psychiatry and Psychiatric Epidemiology, 45,* 355-361.

Van der Geest, I. M. M., Van Dorp, W., Pluijm, S. M. F., & van den Heuvel-Eibrink, M. M. (2018). The Distress Thermometer provides a simple screening tool for

selecting distressed childhood cancer survivors. *Acta Paediatrica*, *107*(5), 871-874.

Van Oers, H. (2021). *The experience of anxiety and depression and their sequelae in breast cancer patients: effects of disease and treatment on patient self-esteem, body image, and the prevalence of hopelessness and suicidal ideation* [Unpublished doctoral dissertation]. University of KwaZulu-Natal.

Van Oers, H., & Schlebusch, L. (2021). Breast cancer patients' experiences of psychological distress, hopelessness, and suicidal ideation. *Journal of Nature and Science of Medicine*, *4*(3), 250-257.

Vanderpuye, V., Grover, S., Hammad, N., Simonds, H., Olopade, F., & Stefan, D. C. (2017). An update on the management of breast cancer in Africa. *Infectious Agents and Cancer, 12*(1), 1-12.

Vehling, S., Kissane, D. W., Lo, C., Glaesmer, H., Hartung, T. J., Rodin, G., & Mehnert, A. (2017). The association of demoralization with mental disorders and suicidal ideation in patients with cancer. *Cancer, 123*(17), 3394-3401.

Villoria, E., & Lara, L. (2018). Assessment of a Hospital Anxiety and Depression Scale for cancer patients. *Revista Médica de Chile, 146*(3), 300-307.

Vögele, C. (2015). Behavioral medicine. *International Encyclopedia of the Social and Behavioral Sciences*, 463-469.

Vos, M. S., & De Haes, J. C. J. M. (2007). Denial in cancer patients, an explorative review. *Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer*, *16*(1), 12-25.

Vrinten, C., McGregor, L. M., Heinrich, M., von Wagner, C., Waller, J., Wardle, J., & Black, G. B. (2017). What do people fear about cancer? A systematic review and meta-synthesis of cancer fears in the general population. *Psycho-Oncology, 26*(8), 1070-1079.

Walker, J., Postma, K., McHugh, G. S., Rush, R., Coyle, B., Strong, V., & Sharpe, M. (2007). Performance of the Hospital Anxiety and Depression Scale as a screening tool for major depressive disorder in cancer patients. *Journal of Psychosomatic Research, 63*(1), 83-91.

Weay. Y.H., Hashim, Z., & Osman, Z.J (2016). Reliability and validity of Hospital Anxiety and Depression Scale (HADS) on breast cancer survivors: Malaysia case study. *Asia Pacific Environmental and Occupational Health Journal, 2*(1), 19-24.

Weiner, C. M., Mathewos, A., Addissie, A., Ayele, W., Aynalem, A., Wondemagegnehu, T., Weinke, A., Jemal, H., Zerche, P., Thomssen, C., Seidler, C., & Kantelhardt, E. J. (2018). Characteristics and follow-up of metastatic breast cancer in Ethiopia: A cohort study of 573 women. *The Breast, 42*, 23-30.

Welch, D. R., & Hurst, D. R. (2019). Defining the hallmarks of metastasis. *Cancer Research, 79*(12), 3011-3027.

Williams, A. M., Khan, C. P., Heckler, C. E., Barton, D. L., Ontko, M., Geer, J.,Kleckner, A., Dackhil, S., Mitchell, J., Mustian, K..J., Peppone, L.J., Kipnis, V., Kamen, C., O'Mara, A.M., & Janelsins, M. C. (2021). Fatigue, anxiety, and quality of life in breast cancer patients compared to non-cancer controls: A nationwide longitudinal analysis. *Breast Cancer Research and Treatment, 187*, 275-285.

Wondimagegnehu, A., Abebe, W., Abraha, A., & Teferra, S. (2019). Depression and social support among breast cancer patients in Addis Ababa, Ethiopia. *BMC Cancer, 19,* 1-8.

World Health Organisation. (2021, March). *Breast cancer*. https://www.who.int/news-room/fact-sheets/detail/breast-cancer

World Health Organization. (2022, October). *Breast Cancer Awareness Month*. https://www.who.int/europe/news-room/events/item/2022/10/01/default-calendar/breast-cancer-awareness-month

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education, 48*(2), 311-325.

Youngstrom, E. A., Hameed, A., Mitchell, M. A., Van Meter, A. R., Freeman, A. J., Algorta, G. P., White, A.M., Clayton, P.J., Gelenberg, A.J., & Meyer, R. E. (2015). Direct comparison of the psychometric properties of multiple interview and patient-rated assessments of suicidal ideation and behaviour in an adult psychiatric inpatient sample. *The Journal of Clinical Psychiatry, 76*(12), 1478–1682.

Yu, S., Li, W., Tang, L., Fan, X., Yao, S., Zhang, X., Bi, Z., & Cheng, H. (2022). Depression in breast cancer patients: Immunopathogenesis and immunotherapy. *Cancer Letters, 536,* 1-13.

Yu, T., Hu, D., Jiang, Y., Wang, C., & Liu, S. (2023). Influencing factors of suicidal ideation in lung cancer patients in midland China: A mixed-method study. *Frontiers in Psychiatry*, *14*, 1-10.

Zabora, J., BrintzenhofeSzoc, K., Curbow, B., Hooker, C., & Piantadosi, S. (2001). The prevalence of psychological distress by cancer site. *Psycho-Oncology, 10*(1), 19-28.

Zainal, N., Hui, K., Hang, T., & Bustam, A. (2007). Prevalence of distress in cancer patients undergoing chemotherapy. *Asia-Pacific Journal of Clinical Oncology*, *3*(4), 219-223.

Zhang, X., Zhang, J., Procter, N., Chen, X., Su, Y., Lou, F., & Cao, F. (2017). Suicidal ideation and psychological strain among patients diagnosed with stomach cancer: The mediation of psychopathological factors. *The Journal of Nervous and Mental disease*, *205*(7), 550-557.

Zhang, Y., Ding, X., Chen, J., Liu, Y., Wang, G., & Hu, D. (2023). Moderating effects of suicide resilience and meaning in life on the association between entrapment and suicidal ideation in Chinese patients with ovarian cancer: A cross-sectional study. *BMC Psychiatry*, *23*(1), 1-13.

Zhong, B. L., Li, S. H., Lv, S. Y., Tian, S. L., Liu, Z. D., Li, X. B., Zhuang, H.Q., Tao, R., Zhang, W., & Zhuo, C. J. (2017). Suicidal ideation among Chinese cancer inpatients of general hospitals: prevalence and correlates. Oncotarget, 8(15), 25141-25150.

Zhou, Y., Hu, D., Zhang, K., Mao, J., Teng, F., Yu, T. Xu, K., Tan, R., Ding, X., & Liu, Y. (2020). The mechanism of family adaptability and cohesion in suicidal ideation among Chinese cancer patients. *Journal of Psychosocial Oncology, 38(*5), 612-626.

Zietsman, A., Pontac, J., Lawrence, S., Horn, L., & Van Schalkwyk, L. (2017). *Cancer incidences in Namibia 2010 – 2014*. Namibia National Cancer Registry (NNCR).

Zigmond, A.S., & Snaith, R.P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, *67*(6), 361-370.

APPENDIX A: UNAM ETHICAL CLEARANCE CERTIFICATE

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: HREC-H/23/01/SOAHS **Date: 31/08/2023**

This Ethical Clearance Certificate is issued by the University of Namibia Research Ethics Committee (UREC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the Faculty/Centre/Campus Research & Publications Committee sitting with the Postgraduate Studies Committee.

Title of Project: PSYCHOLOGICAL DISTRESS, ANXIETY, DEPRESSION AND SUICIDE IDEATION AMONG WOMEN LIVING WITH BREAST CANCER AND RECEIVING TREATMENT IN WINDHOEK: A CASE STUDY
Nature/Level of Project: Masters in Clinical Psychology
Researcher: Zara Mbangtang
Student Number: 201604516
Faculty: Health Sciences and Veterinary Medicine
Supervisor: DR E. N. SHINO (UNIVERSITY OF NAMIBIA)

Take note of the following:

(a) Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the HREC-H. An application to make amendments may be necessary.
(b) Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the HREC-H.
(c) The Principal Researcher must report issues of ethical compliance to the HREC-H (through the Chairperson of the Faculty/Centre/Campus Research & Publications Committee) at the end of the Project or as may be requested by HREC-H.
(d) The HREC-H retains the right to:
  (i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,
  (ii) Request for an ethical compliance report at any point during the course of the research.

HREC-H wishes you the best in your research.

HREC-H Chairperson

Prof CJ Wilders

APPENDIX B: MINISTRY OF HEALTH AND SOCIAL SERVICES PERMISSION TO CONDUCT STUDY LETTER

REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Ministerial Building
Harvey Street
Private Bag 13198, Windhoek

OFFICE OF THE EXECUTIVE DIRECTOR

Tel: No: 061 -203 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

Ref: 22/4/2/3
Enquiries: Mr. A. Haufiku

Date: 12 September 2023

Ms. Zara Mbangtang
PO Box 15672
Oshakati
Namibia

Dear Ms. Mbangtang

Re: Psychological distress, anxiety, depression and suicide ideation among women living with breast cancer and receiving treatment in Windhoek: A case study.

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
   - 3.1 The data to be collected must only be used for academic purpose;
   - 3.2 No other data should be collected other than the data stated in the proposal;
   - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
   - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
   - 3.5 Preliminary findings to be submitted upon completion of the study;
   - 3.6 Final report to be submitted upon completion of the study;
   - 3.7 Separate permission should be sought from the Ministry for the publication of the findings.
4. All the cost implications that will result from this study will be the responsibility of the applicant and not of the MoHSS.

Yours sincerely,

EXECUTIVE DIRECTOR 14 SEP 2023 Republic of Namibia

BEN NANGOMBE
EXECUTIVE DIRECTOR

All official correspondence must be addressed to the Executive Director.

APPENDIX C: INFORMATION AND CONSENT LETTER

Dear Participants

My name is Zara Mbangtang (201604516). I am a final year Master of Arts in Clinical Psychology student at the University of Namibia (UNAM). I am required to complete a mini-thesis in partial fulfilment for the Master of Arts degree in Clinical Psychology. My thesis focuses on the psychological distress, anxiety, depression and suicide ideation of women living with breast cancer and receiving treatment at Dr. A. Bernard May Cancer Care Centre or Namibia Oncology Centre in Windhoek.

Psychological distress is painful mental and physical symptoms that can cause changes in an individual's mood. Anxiety is feelings of tension, extreme worry and physical changes like increased blood pressure. Depression is continued feelings of sadness and loss of interest. Suicide ideation are thoughts about killing oneself. This study aims to understand the experiences of women living with breast cancer in order to offer better support and care for them emotionally as well as physically.

I kindly request that you complete the questionnaires attached so that I can gather the needed information. The Hospital Anxiety and Depression Scale (HADS) assesses anxiety and depressive symptoms in patients receiving medical care, the Emotion Thermometer (ET) screens for psychological distress, anxiety, depression and the Columbia–Suicide Severity Rating Scale (C-SSRS) assesses suicide ideation. The sociodemographic questionnaire records information regarding a person's social and demographic traits, including their age, gender, and level of education to name a few. The completion of all 4 questionnaires should take 45 minutes. Complete all questionnaires as truthfully as possible. There are no right answers. Take note that your participation in this study is

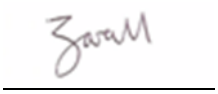
optional. You are allowed to stop participating at any moment. The information that you provide will be used only for the purpose of the research and will be treated with outmost confidentiality, that is, any information that you provide will not be shared with anyone else apart from the researcher and her supervisor. Should an individual need a translator, one will be made available provided that the individual consents to this. All questionnaires will be stored in a lockable filing cabinet for no longer than five years before they will be shredded.

It is ethically required of researchers to find opportunities to share any research-related knowledge with participants, practitioners, policymakers, academics, and other groups that support the study. A research report will also be provided to the Ministry of Health and Social Services, Dr. A. Bernard May Cancer Care Centre and Namibia Oncology Centre. This is to raise awareness of the psychological experiences of breast cancer patients and to create adequate psycho-social interventions. No identity of the participants will be revealed.

For any participant who wishes to contact a local health practitioner or mental health counselling agency following any distress from this experience, attached to the end of this document is a list of mental health and counselling facilities in Windhoek. The researcher who is a psychologist in training and supervisor (Dr. Shino) who is a registered clinical psychologist will also facilitate immediate counselling for participants who might be distressed. The researcher declares no conflict of interest between the researcher and her supervisor as the supervisor is not conducting any project with the same variables as the researcher.

I thank you for your willingness to participate in this study. I look forward to working with you. Should you have any questions, please feel free to contact me or my supervisor (Tel: 061 206-3807; Mobile: 081 250 9414/081 6454 383; email: zarambangtang@yahoo.com/ eshino@unam.na) or the UNAM Decentralised Ethics Committee (email: ethics@unam.na).

Sincerely yours,



Zara Mbangtang.

Mental health and counselling facilities in Windhoek

Free:

1. **Windhoek Central Hospital - Mental Health Centre**
   Telephone Mental Health Department, +264 61 203 3321
   Social Work Department, +264 61 203 3499
   Address Ooievaar Street, Windhoek, 00000

2. **Childline/Lifeline**
   Telephone Toll-free helplines, 116/106, +264 61 555 422 / +264 81 140 0222/ +264 61 226 889
   Address Bismarck street no. 45, Windhoek East, Khomas

3. **Namibia Red Cross Society**
   Telephone +264 61 41 350
   Email enquiries@redcross.org.na
   Address 2128 Independence Avenue, Katutura

Subsidized Cost:

4. **Philipi Trust**
   Telephone +264 61 259 291
   Address Erf 7693 Ara Street, Dorado Park

Medical aid/ cash required:

5. **Let's Talk Psychologists**
   Telephone +264 61 221 123
   Address 15 Feld Street, Windhoek

6. **Blossom Psychology Services**
   Telephone +264 61 222 094/ +264 81 713 3033
   Address 21 Trift Street, Ausspanplatz

7. **Unihealth**
   Telephone +264 81 343 4433/ +264 83 337 6140/49
   Address 25 Boabab Centre, Heliodoor Street, Eros

APPENDIX D: SOCIODEMOGRAPHIC QUESTIONNAIRE

Mark with "X" the statement that applies to you.

Age_____ **Name of Treatment Facility**_____

Home language:

English		Otjiherero	
Afrikaans		Silozi/Subia	
Oshiwambo		Setswana	
Rukwangali		German	
Damara/Nama		Other specify_____	

Marital Status: Single ☐ Married ☐ Divorced ☐ Widowed ☐

Number of children under your care:_____

Employment: Full-time ☐ Part-time ☐ Retired ☐ Unemployed ☐

Place of residency:

Kunene		Omusati	
Oshana		Ohangwena	
Oshikoto		Kavango West	
Kavango East		Zambezi	
Erongo		Otjozondjupa	
Omaheke		Khomas	
Hardap		Karas	

Basic understanding of English: Yes ☐ No ☐

Highest Level of Education: No formal education ☐

Primary school education (Grade 1-7) ☐

Secondary school education (Grade 8-12) ☐

Tertiary Education (certificate, diploma, degree, honours degree, masters, doctoral) ☐

Age at which you were first diagnosed with breast cancer:_____

Current Stage of Cancer: Stage 0 ☐ Stage 1 (I) ☐ Stage 2 (II) ☐ Stage 3(III) ☐

Stage 4 (IV) ☐ Unknown ☐

Perceived social support: Excellent ☐ Good ☐ Satisfactory ☐ Poor ☐

Is participant on any medication for depression or anxiety ? Yes ☐ No ☐

APPENDIX E: HOSPITAL ANXIETY AND DEPRESSION SCALE (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.

Don't take too long over you replies. Your immediate answer is best.

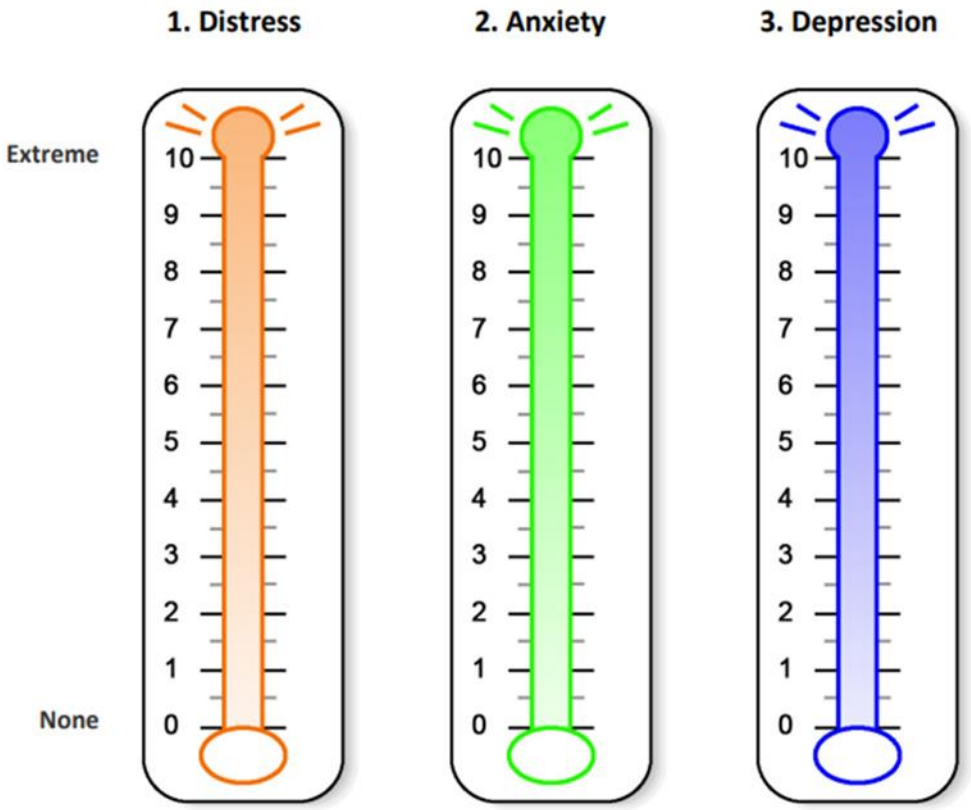
D	A		D	A	
		I feel tense or 'wound up':			**I feel as if I am slowed down:**
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			**I get a sort of frightened feeling like 'butterflies' in the stomach:**
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			**I have lost interest in my appearance:**
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			**I feel restless as I have to be on the move:**
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			**I look forward with enjoyment to things:**
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			**I get sudden feelings of panic:**
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			**I can enjoy a good book or radio or TV program:**
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

APPENDIX F: EMOTION THERMOMETER (ET)

In the three columns that follow, please mark the number (0-10) that best describes how much emotional upset you have been experiencing in the **past week**, including today.

- Distress: a feeling of extreme worry, sadness, or pain.
- Anxiety: a feeling of fear about what is to come.
- Depression: low mood, extreme sadness, loss of interest



APPENDIX G: COLUMBIA SUICIDE SEVERITY RATING SCALE

SUICIDAL IDEATION

Ask questions 1 and 2. If both are negative, proceed to "Suicidal Behavior" section. If the answer to question 2 is "yes", ask questions 3, 4 and 5. If the answer to question 1 and/or 2 is "yes", complete "Intensity of Ideation" section below.	**Since Last Visit**
1. Wish to be Dead Subject endorses thoughts about a wish to be dead or not alive anymore, or wish to fall asleep and not wake up. ***Have you wished you were dead or wished you could go to sleep and not wake up?*** If yes, describe:	**Yes** ☐ **No** ☐
2. Non-Specific Active Suicidal Thoughts General non-specific thoughts of wanting to end one's life/commit suicide (e.g., *"I've thought about killing myself"*) without thoughts of ways to kill oneself/associated methods, intent, or plan during the assessment period. ***Have you actually had any thoughts of killing yourself?*** If yes, describe:	**Yes** ☐ **No** ☐
3. Active Suicidal Ideation with Any Methods (Not Plan) without Intent to Act Subject endorses thoughts of suicide and has thought of at least one method during the assessment period. This is different than a specific plan with time, place or method details worked out (e.g., thought of method to kill self but not a specific plan). Includes person who would say, *"I thought about taking an overdose but I never made a specific plan as to when, where or how I would actually do it.....and I would never go through with it".* ***Have you been thinking about how you might do this?*** If yes, describe:	**Yes** ☐ **No** ☐
4. Active Suicidal Ideation with Some Intent to Act, without Specific Plan Active suicidal thoughts of killing oneself and subject reports having some intent to act on such thoughts, as opposed to *"I have the thoughts but I definitely will not do anything about them".* ***Have you had these thoughts and had some intention of acting on them?*** If yes, describe:	**Yes** ☐ **No** ☐
5. Active Suicidal Ideation with Specific Plan and Intent Thoughts of killing oneself with details of plan fully or partially worked out and subject has some intent to carry it out. ***Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?*** If yes, describe:	**Yes** ☐ **No** ☐

INTENSITY OF IDEATION

The following features should be rated with respect to the most severe type of ideation (i.e.,1-5 from above, with 1 being the least severe and 5 being the most severe). ***Most Severe Ideation:*** _____ _____ ***Type # (1-5)*** ***Description of Ideation***	Most Severe
Frequency ***How many times have you had these thoughts?*** (1) Less than once a week (2) Once a week (3) 2-5 times in week (4) Daily or almost daily (5) Many times each day	____
Duration ***When you have the thoughts how long do they last?*** (1) Fleeting - few seconds or minutes (2) Less than 1 hour/some of the time (3) 1-4 hours/a lot of time (4) 4-8 hours/most of day (5) More than 8 hours/persistent or continuous	____
Controllability ***Could/can you stop thinking about killing yourself or wanting to die if you want to?*** (1) Easily able to control thoughts (2) Can control thoughts with little difficulty (3) Can control thoughts with some difficulty (4) Can control thoughts with a lot of difficulty (5) Unable to control thoughts (0) Does not attempt to control thoughts	____
Deterrents ***Are there things - anyone or anything (e.g., family, religion, pain of death) - that stopped you from wanting to die or acting on thoughts of committing suicide?*** (1) Deterrents definitely stopped you from attempting suicide (2) Deterrents probably stopped you (3) Uncertain that deterrents stopped you (4) Deterrents most likely did not stop you (5) Deterrents definitely did not stop you (0) Does not apply	____
Reasons for Ideation ***What sort of reasons did you have for thinking about wanting to die or killing yourself? Was it to end the pain or stop the way you were feeling (in other words you couldn't go on living with this pain or how you were feeling) or was it to get attention, revenge or a reaction from others? Or both?*** (1) Completely to get attention, revenge or a reaction from others (2) Mostly to get attention, revenge or a reaction from others (3) Equally to get attention, revenge or a reaction from others and to end/stop the pain (4) Mostly to end or stop the pain (you couldn't go on living with the pain or how you were feeling) (5) Completely to end or stop the pain (you couldn't go on living with the pain or how you were feeling) (0) Does not apply	____