QUALITY OF LIFE AND COPING STRATEGIES FOR BREAST CANCER PATIENTS WHO HAVE UNDERGONE MASTECTOMY AT ST FRANCIS MISSION HOSPITAL IN KATETE ZAMBIA.

BY

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DECLARATION

I, Fordson Zimba, declare that this dissertation is my original work. I am the author and all the content presented herein is a result of my own work. Any contributions or assistance from other individuals have been acknowledged. I further declare that all sources of information and data used in this report, whether published or unpublished, have been appropriately cited and referenced in accordance with the academic and ethical standards. The Dissertation has not been previously submitted at University of Zambia or any other university. I am submitting it for the Degree of Master of Science in Oncology Nursing.

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DEDICATION

I dedicate this dissertation to my wife Veronica Phiri Zimba, for her love, unquestionable confidence in me and support during the training. My Parents, Mr Jason Zimba and Mrs Catherine Goma Zimba (Late) for their encouragement love and support. My children Msaniko, Tumbiko , Mayankho and Mayamiko for their love and understanding. To my siblings for their support and prayers. May God richly bless you all.

ABSTRACT

Globally, approximately 310,720 new cases of invasive breast cancer were diagnosed in women, with around 56,500 cases of ductal carcinoma. Breast cancer is the most prevalent cancer among women in Africa, with an estimated 198,553 new cases. In Zambia, total number of women diagnosed with breast cancer is 1,111 cases. St Francis Mission Hospital has an average of 5 breast cancer surgery cases monthly Following mastectomy, women experience quality of life in different dimensions. Therefore, quality of life includes patients' physical, psychological, social, and spiritual aspects of everyday life. Coping strategies in cancer involved were positive affirmation, social interaction and having hope. The study aimed at investigating the quality of life and coping strategies among breast cancer women who have undergone mastectomy.

The study employed a qualitative descriptive phenomenological design. In-depth interviews guided by an interview guide were conducted on the 15 participants after attaining data saturation. Thematic analysis was utilized for data analysis using themes generated from participant's responses.

Five themes were identified in this study: physical pain, emotional distress turmoil, social issues after social isolation, psychological journey after surgery and spiritual life. Participant's experienced impaired quality of life. Physical pain resulted into experiences of fatigue and limited activity hence the participants were unable conduct activities of daily living both at home and their places of work. For emotional distress turmoil had encompassed self-image with low self-esteem because of the mastectomy which had distorted their body image. Social issues after social isolation included personal relationships and employment interferences due to hospital admissions. Psychological journey after surgery ranged from anxiety, fear, and anger. Participants had fear of death and cancer reoccurrence. Positive affirmation as coping strategy showed that the participant had a positive mind and hope that they would still live longer.

The study showed that the quality of life was impaired because of the effect on physical, psychological, emotional and social domains. This study recommends provision of psychosocial support programs such as engagement of more cancer support groups for cancer patients.

Nursing implication includes implementing an individualised patient-ccare that consider psychological sensitivity and coping strategies that will enhance the overall quality of oncology nursing practice.

Key Words: Breast cancer, quality of life and Coping strategies.

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LIST OF ABBREVIATIONS

BC	Breast Cancer
CDH	Cancer Diseases Hospital
CDC	Centre Disease Control
MOH	Ministry of Health
OPD	Outpatient Department
QOL	Quality of Life
WHO	World Health Organization
SHEPIZ	Strengthening Health Professional Workforce Education Program for Improved Quality Healthcare in Zambia
UNZABREC	University of Zambia Biomedical Research Ethics Committee
UNZA	University of Zambia
NHRA	National Health Research Authority
CINAHL	Cumulative Index to Nursing and Allied Health Literature

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter presents the research study's backdrop and provides a summary of the local and worldwide perspectives on quality of life and coping strategies for breast cancer patients who have undergone mastectomy. Along with the precise objectives, it also has detailed justification for the study, and the overarching purpose. A number of mastectomies are conducted at St Francis Mission Hospital but no one has conducted a research to explore the quality of life and coping strategies experienced by these clients hence this was a motivation to coduct this study. Therefore, this motivated me to conduct this study . When mastectomies were done, clients presents with a number of problems which includes fear, social isolation, anxiety and low self-esteem. This was also a motivation to carry out a study addressing the quality of life and coping strategies for breast cancer patients who have undergone mastectomy

1.1 Background

Globally, approximately 310,720 new cases of invasive breast cancer are diagnosed in women, with around 56,500 cases of ductal carcinoma in situ (DCIS). Roughly 16% of these invasive cases will occur in women under 50 years old (WHO 2024). Breast cancer is the most prevalent cancer among women in Africa, with an estimated 198,553 new cases reported, representing 16.8% of all cancer cases on the continent (Globocan, 2023).

In Zambia, breast cancer is the second common cancer and accounts for 19.9 cases per 100, 000 women. The total number of women diagnosed with breast cancer is 1,111 cases (Globocan, 2024). One of the most common treatment modalities in Zambia is surgery. National wide the total number of mastectomies done is estimated to be 800 cases (Globocan, 2023). St Francis Mission Hospital has an average of 5 breast cancer surgery cases monthly. Health Information Management Systems (HIMS) August, 2023). Breast cancer is a cancer that develops due to uncontrollable changes in the function or growth of the cells forming breast tissue (Cardonick et al., 2021). These changes transform these cells into cancerous cells that have the ability to spread. Breast cancer can occur in both men and women, but it is more common in women. Common signs

and symptoms include a solid non-painful lump, breast tenderness, swelling and discharge (American Cancer Society, 2022).

The diagnosis of breast cancer is made by breast self-examinations, physical examinations, biopsy and mammograms. Treatment options depend on the diagnosis (type of tumor, stage, size) and the health status of the patient. It includes chemotherapy, radiation therapy, hormone therapy, surgery and targeted therapy (WHO,2022). A mastectomy may be recommended if ductal carcinoma in situ, or noninvasive breast cancer, stages 1 and 2 breast cancer, also called early-stage breast cancer and Paget's disease of the breast. Some of the main types of mastectomies are radical, nipple sparing and modified radical mastectomy (Berkey et al., 2020). The effect of breast cancer and its treatments such as mastectomy on a patient includes psychological discomfort, especially mood disorders, depression, anxiety, anger, fear about the body image, and in general, its influence on the quality of life which is greatly reduced after breast surgery (Siegel et al., 2020).

Quality of life (QOL) is related to all the factors associated with cancer named as cancer properties (Calderon et al., 2021). The results of study conducted by Cao et al., (2021) showed that the women who had undergone mastectomy compared with women who have had breast conserving surgery had a significantly lower QOL . Having a breast removed can affect a woman in many ways some of these include: denial of the disease process, intense and prominent fear of death. The belief that in addition to the threat to their physical integrity, there have been changes in their family and conjugal relationships and guilt for feeling these ways (Arroyo et al., 2019). Loss of fertility, adjusting to new societal responsibilities, concerns about body image and sexuality, and altered romantic relationships are all potential sources of post-mastectomy distress for women in Egypt and other developing countries (Visser et al., 2021). All elements of a woman's and her family's everyday lives are affected by a mastectomy, coping strategies of women after mastectomy is a life-changing procedure (Menoufia, 2022). Moreover, when their economic situation worsens, women tend to lose interest in their activities of daily living. This eventually led to deteriotion of their sexual desire impacting their quality of life (Johnson, 2020).

Many patients suffer negative physical, psychological, and social impacts of cancer treatment on top of the shock, fear, anxiety, and uncontrollable feelings of uncertainty and mortality evoked when surgery is done and psychological distress was high among post mastectomy women

(Gradishar et al., 2020). In published literature, the choice of an active and constructive strategy not only improved QoL but also contributed to longer survival. (Chabowski et al., 2020).

To manage these effects of post mastectomy it needs various coping strategies. Coping strategies are the behaviors, thoughts, and emotions that you use to adjust to the changes that occur in life.

They are different approaches in the coping strategies. The strategy that patients use to cope with their breast cancer significantly affects their quality of life. A number of strategies for coping with cancer have been identified, including: fighting spirit, positive redefinition, helplessness/hopelessness, and anxious preoccupation (Vermer et al.,2021).A patient taking the constructive approach is motivated to treat their illness as a challenge and undertake action to combat it. Positive redefinition allows the patient to find hope and satisfaction in life while maintaining full awareness of the severity of their illness. Meanwhile, destructive strategies manifest in feelings of powerlessness, anxiety, and a tendency to interpret any symptom as a sign of health deterioration (Froeding et al., 2020). Generally, the latter may exacerbate the adverse effects of mastectomy, in particular the arm- and breast-related symptoms, and promote a passive approach to the illness (Park et al., 2022). Notably, negative strategies have a strong impact on patients' lives and impair their daily functioning considerably while a positive approach to coping with cancer does not improve QoL as strongly. In literature, documented the complex relationship between QoL and coping with disease. Moreover, multiple studies show that one's choice of coping strategy may depend on the stage of treatment and time from diagnosis. The longer the time from diagnosis, the less likely patients are to adopt positive strategies while no change over time was observed for the "helplessness" and "anxious preoccupation" strategies (Mulugeta et al., 2021).

However, emotional support was the most frequently coping style utilised by newly diagnosed incurable cancer patients (Calderon et al., 2021). Problem-based coping, emotion-based coping, and maladjustment were too general to describe mastectomy patients' coping styles (Guo et al., 2017). Ahmadi, (2020) revealed that cancer patients in Sweden preferred to use meaning-making coping methods, especially nature and a sense of self-control to adjust themselves to the disease. According to the study done in Iran Problem-focused coping strategies, such as cognitive acceptance, positive and constructive thinking, and using emotional support and religion were mostly considered as beneficial coping strategies (Folkman et al., 2020).

The study done by Folkman et al., (2020) indicated that trying to be hopeful and trying to have a positive, optimistic perspective and cognitive acceptance have very important roles among young women who are married and have relatively young or school age children. For example, in this study, women tried to remain hopeful by concluding that the breast is not a vital organ. It may have a role in determining the shape of the body and in providing an attractive appearance but health always should be given priority over beauty making the removal of a diseased breast a relatively unimportant issue (Folkman et al., 2020). According to Hanoch, (2018) mastectomy-treated breast cancer survivors generally use a combination of cognitive and behavioural coping mechanisms to deal with the wide range of stressful situations they report facing. Some examples of coping strategies include constructive problem-solving, avoiding or escaping stressful situations, and reaching out to others for help (Rosberger et al., 2020). Supportive care is essential for women with breast cancer, as it helps to reduce emotional discomfort and facilitates adaptation. Care that is supportive of others and the individual's physical and mental well-being is called a "caring attitude" (Classen et al., 2018). There are two primary purposes of coping: solving the issue that's causing one's distress (problem-focused coping) and controlling one's negative emotional reactions to that issue (emotion-focused coping) (Folkman et al., 2020).

Therefore, there is need to explore quality of life and coping strategies for breast cancer patients who have undergone mastectomy at St Francis Mission Hospital. This will establish if the participants quality of life was impaired thereby imploring different coping strategies.

1.2 Statement of the problem

In Zambia, most of women with breast cancer under go through mastectomy. St. Francis Mission Hospital also conducts mastectomy as a treatment modality of the breast cancer patients. Although mastectomy is one of treatment modalities quality of life and coping strategies are needed. It is important to have good quality of life after mastectomy because the health of the clients is enhanced (Davies et al., 2020).

Following mastectomy, clients present with different problems such as loss of self-esteem, anxiety, altered body image and depression. If these psychosocial problems are not addressed it can lead to suicidal ideations, severe depression and poor response to treatment. The effects include greater distress, poor outcomes, and reduced quality of life (Gradishar et al., 2020). According to the study

conducted in Zambia by Wezzie M et al., (2020) showed that fatigue, dyspnea, insomnia, pain and self-image issues was significantly high in the clients.

Coping strategies are required in order to allow the client to have a social and psychological balance (Peggy et al., 2021). The study addressed the clients' gaps in their quality of life and coping strategies following mastectomy at St Francis Mission Hospital

1.3 Justification of the study

Following mastectomy, the quality of life and coping strategies are individualized (Gradishar et al., 2020). According to the studies conducted in Khartoum showed that patients after mastectomy were unsatisfied with their body images initially but improved over time (Ibrahim M et al., 2020). The Ghanian study showed that sexual pleasure was affected by mastectomy and most of the patients became less active sexually for long time (Quayson et al., 2020). Similarly, conducted in England revealed that body dissatisfaction became an issue for women who had breast cancer and usually had undergone several treatments which altered their appearance. These body image concerns can have a profound impact on quality of life, which can persist for years following recovery (Koçan.S et al., 2021).

Although studies on breast cancer have been conducted to address the quality of life and coping strategies for breast cancer patients who have undergone mastectomy none of the studies has been done at St Francis Mission Hospital in Katete District.The results from the study can be used to improve quality of life and coping strategies in post mastectomy patients. Therefore, knowledge from this qualitative study can be used to address quality of life and possible coping strategies of following mastectomy.

1.4 Research question

1. What is the quality of life and coping strategies for the breast cancer patients who have undergone mastectomy at St Francis Mission Hospital?

1.5 Research objectives

1.5.1 General objectives

To explore the quality of life and coping strategies for breast cancer patients who have undergone mastectomy at St Francis Mission Hospital in Katete district. `

1.5.2. Specific objectives

1. To examine the quality of life among women who have undergone mastectomy at St Francis Mision Hospital in Katete district.
2. To explore the coping strategies among women who have undergone mastectomy at St Francis Mision Hospital in Katete district

1.6 Conceptual definitions of terms

Cancer: Cancer is a group of heterogeneous diseases that share common biologic properties of clonal cell growth and invasive (Connie Henke Yarbro, 2011)

Cancer Patient: This is the person who is diagnosed and also receiving cancer treatment (Beck Taylor 2015)

Breast cancer: Breast cancer is malignant tumor that has developed from an uncontrolled growth of breast cells. (Connie Henke Yarbro, 2011)

Mastectomy: This is the surgical removal of the breast. (Langhorne et al 2007)

Coping Strategies: This is any conscious or unconscious decision which causes relief or consolation in stressful situations. (American Cancer Society 2021)

Quality of Life: An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO 2020).

1.7 Operational definitions

Coping: is the process of using behavioral and cognitive approaches to manage difficult or threatening situations.

Anxiety: This is an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure.

Fear: The feeling or condition of being afraid of someone or something as likely to be dangerous, painful or harm.

Cancer: This is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body.

Psychological: This is acting through the mind especially in its affective or cognitive functions.

Patient: An individual under surgical treatment and care

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The literature review is an important component since it aids in setting the study within the body of already existing knowledge. The literature review, which highlights the findings of other researchers, is scrutinized in this chapter. In this literature review, the researcher summarizes coping strategies and quality of life in post mastectomy patients. Search data bases such as PubMed, Google scholar, CINAHL, and Cochrane Library were used.

2.1.1 Overview of Breast Cancer

Breast cancer is one of the most common cancers affecting women worldwide. Apart from causing death, breast cancer affects the health-related quality of life (HRQoL) in these patients. Globally, approximately 310,720 new cases of invasive breast cancer are expected to be diagnosed in women, with around 56,500 cases of ductal carcinoma in situ (DCIS) also diagnosed; roughly 16% of these invasive cases will occur in women under 50 years old (WHO 2024). Breast cancer is the most prevalent cancer among women in Africa, with an estimated 198,553 new cases reported, representing 16.8% of all cancer cases on the continent (Globocan, 2023).Breast cancer has been reported to occur at a very high rate in young women (Cullen et al., 2020). The phenotype is more aggressive with the presence of distinctive biomarkers that has become an important area of concern. The onset of breast cancer in young women affects their fertility and the risk of inheritance by their progeny. Tumor heterogeneity and expression of various proliferation markers have been seen in young women with breast cancer. The genomic profile of young women suffering from breast cancer has been different from elderly women suffering from the same disease (Alnaim et al., 2022).

There are 2 main types of surgical options for breast cancer which include breast-conserving approaches and non-breast-conserving approaches. Breast-conserving approaches involved radiation and chemotherapy-based methods. However, in cases where cancer has become aggressive and metastasizing, breast removal or mastectomy becomes an obligation. Many women who elect for mastectomy opt for breast reconstruction. (Siegel et al., 2021). There is limited research associated with HRQoL in post-mastectomy patients. Understanding the HRQoL and the

wide range of issues associated with it, post-mastectomy could help in suggesting strategies that could help in coping strategies in these women with their condition (Brennan et al., 2020)

2.3 Quality of life in post mastectomy

Health-related quality of life (HRQL) is a complex concept that in turn includes patients' physical, psychological, and social aspects of everyday life. (Amare et al., 2019) Health-related quality of life is considered an essential feature to be considered while performing therapies for any of the disease conditions. In patients with breast cancer, HRQoL is considered as one of the end points of successful therapy (Hong et al., 2021) .According to the study done by Safaei et al., (2021) revealed that the women who had undergone mastectomy had higher levels of fatigue. Furthermore, a study was conducted by Smith et al., (2022) indicated that the burden of poor QOL outcomes was greater among younger individuals, those with lower educational attainment and income. According to the study in Ethiopian women by Piekut et al., (2020) it showed that breast cancer patients who underwent mastectomy performed poor in terms of quality of life. Studies have been done by Bourge et al., (2021) to understand the HRQoL in breast cancer patients undergoing showed that high levels of anxiety and fear. In the present review, it was observed that women post-mastectomy have altered levels of anxiety and depression. It was observed that patients had negative thoughts with deteriorated quality of life. It was observed that post-mastectomy women go through a lot of emotional disturbance which affects them psychologically, resulting in trauma, anxiety, and depression which needs to be addressed properly (Khalil et al., 2021).

2.3.2 Body image issues

Studies have identified body image issues as a major contributor for lack of coping. In one such study in Spain, women's body image and psychological assessment were conducted between women who underwent mastectomy and those who had breast-conservation therapy (Rubino et al.,2021).Women who had radical mastectomy showed higher levels of hopelessness, body image issues, and had psychological distress when compared with other groups. Thus, coping in these women was directly associated with their body image and subsequent psychological adaptation for the same.

Body image issues are further augmented by the fact that women post-mastectomy have issues in finding right undergarments for use. This is one of the factors that make it difficult for women post-mastectomy to socially adapt in society (Froeding et al., 2020). There is no support offered to these women and these patients need more guidance and more resources for choosing the right garments such that they can feel comfortable (Bresser et al.,2019). A study done in Danish women on the quality of life between post-mastectomy and breast-conserving therapies observed that mastectomy had a huge impact on making social contact, quality of life, psychological balance and overall mood in these women but had no difference in performance of day-to-day activity (Chiu et al.,2020). Women undergoing mastectomy have body image–related issues, well-being, and intimacy with partners. A retrospective qualitative study was performed in the University of Western Australia revealed that all the women had pre-surgery anxiousness and related psychological trauma (Alkaff et al., 2022). Women who underwent psychological consultation before surgery felt better intimacy with partners , were more confident, and had body image issues sorted out (Gernaat et al., 2020). Similarly, providing sufficient information to breast cancer patients helps them to understand the various aspects related to trauma and anxiety, and they are more prepared for better HRQoL when compared with women who do not have information.). According to the study conducted in Zambia by Wezzie M et al., (2020) showed that fatigue, dyspnea, insomnia, pain and self-image issues was significantly high in the clients.

2.4. Coping strategies

2.4.1 Adapting to mastectomy

Adapting to mastectomy was used coping strategy post-mastectomy beacause there was a lot of stress faced by women often leads to anxiety and depression (Terdius et al.,2020). Coping with stress and depression is very difficult post-surgery. Studies identified in the present review observed that adapting to the situation acts as an effective coping strategy. In a study done in the Netherlands observed that the patients had a high level of distress before surgery which continued to show an upward trend 6 months and 1 year post-surgery. (Borgi et al.,2020). Positive thoughts and reassurance regarding better quality of life decreased the stress substantially. Another prospective longitudinal survey conducted in Toronto, Canada on the women who underwent mastectomy were monitored for 6.5 years post-mastectomy compared with women who underwent

breast reconstruction post mastectomy (Kroemeke et al., 2021). The study found that after a long period of mastectomy, women start coping with it and they have near normal psychological functioning irrespective of reconstruction. Thus, Kroemeke et al., (2021) emphasized the fact that post-mastectomy as the time proceeds women learn to cope with situations, thus improving their overall quality of life. In another study by Sheehan et al., (2020) resilience as a coping strategy was examined in women who survived breast cancer. The study had similar observations as above mentioned studies. The perception of illness and adapting to it helped them to overcome body image related issues. Women who undergo a mastectomy have difficulty in accepting the situation and coping with it. The various coping strategies that are to be considered need to involve both physical and emotional aspects. Also, it is essential to change the stressful environment such that women do not feel uncomfortable and start reacting to the stress (Nicklaus et al., 2020).

Coping strategies are a determining factor for adapting to these situations (Hopman et al., 2021). According to their consequences, the strategies can be categorized as being either more or less adaptive (Levin et al., 2020). Coping strategies such as avoidance, repression, passive coping, self-blaming acceptance and ruminative thoughts are all generally considered to be less adaptive (Barreraet al., 2020). When a person develops coping strategies that are mainly of the avoidant type, such as denial, the absence of positive reframing, or self-blaming all of which are associated with a low quality of life they usually present emotional states that make it difficult to directly address the stressful event (Brunault et al., 2020). In contrast, strategies such as positive reframing problem solving and coping based on religion which is considered more adaptive and associated with a higher quality of life (Abraham et al., 2020). These Coping strategies and self-esteem in women with breast cancer are more adaptive coping strategies related to greater psychological wellbeing (Danhauer et al.,2020). The most frequently observed adaptive strategies are characterized by being active and focused on the problem. The most notable of these being positive reframing and personal growth, active coping and planning, followed by the use of religious beliefs, acceptance, and social support (Han, 2020). It has been observed that the majority of women present an active coping style, helping them to carry out activities that are enjoyable such as reading, walking, or physical exercise (Font, 2020). Age influences the development of psychological coping strategies, such that the older the patient, the higher the likelihood of using more adaptive coping strategies. A systematic review conducted on the same observed the reconstruction rates are highly variable in women. The findings showed multiple

barriers associated with breast reconstruction with prominent factors being age, ethnicity, income, educational status and patients' choice. Psychological intervention before surgery showed positive outcomes in cancer patients (Hermoso et al., 2021). Psychoeducational programs that educate women before surgery associated with breast cancer have shown positive outcomes in terms of reducing the overall stress and worry in such patients (Mertine et al.,2020). Mastectomy had adverse effects on attire and intimacy with their partners. Such studies which have been done in different countries have shown a similar observation of loss of self-esteem and negative perception of body image post-surgery. Psychological interventions have been sought after in such cases to reduce the trauma associated with body image related issues in breast cancer patient (Hung et al., 2021).

2.5 Conclusion

In conclusion, globally literature reviewed showed that breast cancer patients who have undergone mastectomy showed high levels of anxiety and fear in their quality of life. It also revealed that women who had radical mastectomy showed higher levels of hopelessness, had psychological distress and body image–related issues, well-being, and intimacy with partners. Studies observed that adapting to the situation acts as an effective coping strategy.African studies reviewed that quality of life included the psychological distress such as anxiety fear and stress). Other African studies showed that breast cancer patients who underwent mastectomy performed poor in terms of quality of life. Coping strategies were stress management and adaptation to the situations.Furthermore, from the literature reviewed that was conducted in Zambia showed that fatigue, dyspnea, insomnia, pain and self-image issues was significantly high in the clients. The reviewed literature therefore provided a convincing argument why a research study on quality of life and coping strategies for breast cancer patients who have undergone mastectomy.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The aim of this chapter was to describe the research methodology that was applied to determine the coping strategies and quality of life in the post mastectomy patients. The chapter has presented research design, study settings, study population, target population,accessible population, selection of participants, inclusion criteria, exclusion criteria, sample size, data collection methods, plan for data analysis and tools and ethical consideration.

3.2 Study Design

A qualitative descriptive phenomenological research design was used to explore the coping strategies and quality of life in women post mastectomy breast cancer. Phenomenology research design is a research approach that focuses on the subjective experiences of individuals and their perception of the world around them, (Polit et al., 2019). In this study, phenomenology design was used to gain an in-depth understanding of the quality of life and coping strategies for the women who had undergone mastectomy .

3.3 Study settings

The study was conducted at at St Francis Mission Hospital in Katete. One of the two Central hospitals in Eastern province which conducts mastectomies. It has a bed capacity of 480 with a catchment area covering the whole district and the surrounding towns.It offers primary, secondary and tertiary levels of care.

3.4 Study population

The study population included patients with breast cancer at any stage who had undergone mastectomy during study period. The researcher chose this population because it represents those directly affected by the study's focus on the quality of life and coping strategies by the post mastectomy breast cancer patients.

3.4.1 Target population

The target population refers to the larger group of individuals to whom the findings of a study are intended to be applied or generalized (Polit & Beck, 2021). The target population for this study included all breast cancer patients who had undergone mastectomy at St Francis Mission Hospital in Katete, Zambia .

3.4.2 Accessible population

The accessible population included who all breast cancer patients who were post mastectomy in the female surgical ward during the period of study at St Francis Mission Hospital.

3.5 Sampling Technique

Sampling technique, on the other hand, refers to the specific method or approach used to select participants for a research study (Burns, 2020). In this study, purposive sampling criteria was employed, which involved selecting participants based on specific characteristics relevant to the research question or objectives.

3.6 Sample size and sampling

According to Wong, (2021) the sample size is determined by the saturation of the data. The sample size was the breast cancer patients who have undergone mastectomy. Purposive sampling method was used to select participants in the study. Robbins, (2019), suggest that there is no established criteria or rules for sample size in qualitative research and that sample size is largely a function of the purpose of the inquiry and that a sample size of 20 or fewer is adequate in qualitative research. Individual interviews were conducted with the categories of patients. In this study the sample was 15 participants, this was attained following the data saturation as suggested by Wong, (2021).

3.6.1 Inclusion criteria

The inclusion criteria were as follows:

- Post mastectomy breast cancer patients who consented to participate in the study.
- All female adults breast cancer patients who had undergone mastectomy.

3.6.2 Exclusion Criteria

The exclusion criteria were as follows:

- Critically ill or unconscious post mastectomy breast cancer patients would not participant in the study.

3.7 Data Collection

Data collection was done by the researcher using the interview guide. Informed consent was obtained from the participants for the interviews as well as for the recording thereof. Each interview lasted for about 30 minutes or less. Interviews were conducted within the hospital premises. Interviews were conducted in simple English and local language to ensure that all participants understand the questions. Participants were allowed to answer and express themselves in their home language.

3.8 Data collection Technique

Data collection commenced following ethical clearance from the University of Zambia Biomedical Research Ethics Committee (UNZABREC), approval from the St Francis Mission Hospital and the University of Zambia (UNZA) School of Nursing Sciences. The researcher introduced himself to each participant, explained the study, assured participants of privacy, confidentiality and anonymity .The study involved a face-to-face interview with the researcher asked a set of questions using an in-depth interview guide. Thereafter consent form was signed, proceeded by researcher to asking the participants relevant questions and the responses were recorded. The interviews were conducted at the hospital and took about 30 minutes. The interview guide comprised sections on socio-demographic characteristics, quality of life and coping strategies.

3.9 Bracketing

Bracketing is a technique used in qualitative research to address the potential bias of the researcher's preconceptions, assumptions, and beliefs (Tufford et al.,2019). Bracketing involves the researcher setting aside their personal beliefs and assumptions about the research topic to ensure that their interpretation of the data is as objective as possible (Rolls et al.,2021). In this study, the researcher utilised bracketing techniques to address potential biases related to their

personal experiences, beliefs, and assumptions. The use of bracketing techniques in this study helped to minimize the potential influence of the researcher's personal biases on the interpretation of the data. The findings of the study were based on the responses of the participants and not on the researcher's personal beliefs or assumptions.

3.9.1 Credibility

To ensure credibility peer debriefing and member checking was used. Peer debriefing is a session held with objective peers to review and explore various aspects of the inquiry (Beck et al.,2020). All interviews were audio-taped and transcribed verbatim and transcriptions were checked for accuracy against the tapes. To further enhance credibility, a thick, in depth description of the research process including sample selection, research setting, data collection and data analysis was given. Therefore, the transcription of each interview was presented to the participant involved for verification and filling in of missing information.

3.9.2 Transferability

A description of the setting, procedure and participants was provided for other researchers to determine whether the findings are transferable to another setting or context (Robbins P, 2021).

3.9.3 Dependability

Dependability of a study requires an audit. To facilitate dependability an enquiry auditor, usually a peer, validates the processes and procedures used by the researcher in the study and establishes whether these are acceptable, in other words, dependable (Wallwork et al., 2020).In this study the research methodology for data collection and analysis was verified by the researcher.

3.9.4 Conformability

Raw data from tape recordings were used for data analysis and tape recordings were transcribed verbatim to ensure conformability.

3.10 Reliability

This was done to determine accuracy of the data collection tool. The instrument was able to bring out the accurate information whereby if the same instrument was to be used after some time, it should produce the same responses. The same instrument was used to collect data from all the respondents and this helped to collect similar data. The research tool was tested before the main study was conducted using a pilot study in an environment with similar characteristics as the environment where the main study was conducted.

3.11 Instrumentation

Individual interviews and semi-structured interview guide was used to direct the interviews during data collection. An interview guide is a list of questions and probes used to direct interviews. A semi-structured interview guide allows for the researcher to obtain multiple responses to set questions and allows for detailed responses. The semi-structured interview guide gives the researcher and participant more flexibility in comparison with an unstructured interview guide. The semi-structured interview guide was based on the objectives of the study.

3.12 Pilot Study

A pilot-test was conducted to determine whether ambiguous instructions or wording exist and whether the participants understood the questions in the instruments. The pilot study was done at St Francis hospital in Katete because it is the one of the hospitals that conducts mastectomies. An interview with two participants was conducted to test the interview guide.

3.13 Ethical Consideration

Ethical clearance was obtained from University of Zambia Biomedical Research Ethics Committee (UNZABREC REF No:5155-2024) and National Health Research Authority (NHRA), permission to conduct the study was obtained from the St Francis Mission Hospital Management. The researcher was guided by three fundamental principles: respect for persons, beneficence and justice. Consent was obtained from the participants in the study following a brief explanation on the purpose, procedure, benefits, and risks, of the study. Participants were reassured of the right to withdraw from the study and that no privileges were to be taken away if they decided not to take

part while those who were willing to participate were made to sign the consent form. These in turn correspond to the participants' human rights like the right to self-determination, privacy, anonymity, confidentiality, fair treatment and protection from discomfort and harm (Brink et al., 2022). In this study the researcher adhered to these principles as follows:

3.13.1 The Principle of Respect for Persons

The participant's right to autonomy was respected since participation in the study was voluntary and participants were informed that they had a right to refuse to participate or withdraw from the study at any time.

3.13.2 The Principle of Beneficence

This principle entails a means of securing the well-being of the participant who has the right to be protected from discomfort and harm (Silverman, 2020).

3.13.3 Confidentiality and Anonymity

The participants were assured that the information they share was held in confidence. Neither the institution nor the participants was referred to by name. Pseudonyms were used when direct quotes from the raw data are used. All data was locked away and stored in a safe place. Only the researcher involved had access to the data.

3.13.4 Informed Consent

The participants were all informed about the essential details fundamental to the study before signing the consent form, thus informed written consent was obtained from each participant. In addition, permission to conduct the study was obtained from UNZABREC as well as from the head of the participating hospital namely St Francis Mission Hospital. Permission to audio-tape discussions was obtained from the participants prior to the interview sessions.

3.14 Data Analysis and Interpretation

The data was collected through in-depth using an interview guide. Thematic analysis was used to identify and categorize key themes and patterns within the data, which was then analyzed to

generate insights and recommendations for improving quality of life and coping strategies in the post mastectomy breast cancer patients. These phases were familiarization with data, generating initial codes, searching for themes among codes, reviewing themes, defining and naming themes, and finally producing the final report (Charmaz et al., 2019). The findings were presented in a table form and narrations from participant's responses were reported.

Step 1: Familiarizing

To familiarize the researcher with the data, the initial phase of data analysis involved several key activities. Firstly, the researcher transcribed the verbatim content of the interviews, ensuring an accurate representation of the participants' narratives. Additionally, the researcher carefully reviewed these transcripts, immersing themselves in the rich detail and nuances of the data. To enhance comprehension, particularly for interviews conducted in the local language, transcripts were translated into English. Furthermore, the researcher listened to the original interviews repeatedly, allowing for a deeper understanding and familiarity with the data. These iterative processes of transcription, review, translation, and repeated listening facilitated a comprehensive immersion into the dataset, enabling the researcher to discern patterns, themes, and insights that informed subsequent stages of analysis.

Step 2: Generating Initial Codes

To generate codes, the researcher conducted a systematic process of data analysis following data familiarization. Initially, the content of the interviews was segmented into meaningful units, capturing key ideas, concepts, and experiences expressed by participants. These segments were then summarized to purify their essence into concise descriptions. Subsequently, the researcher engaged in a process of labeling these summarized segments with codes, which emerged from a rigorous thematic analysis of the data. This involved closely examining the data to identify recurring patterns, themes, and concepts. Codes were generated iteratively, with the researcher continuously comparing and contrasting segments of data to refine and expand the coding framework. Through this systematic approach, connections between various codes were identified, leading to the creation of different categories of codes that captured the diverse aspects of participants' experiences. Highlighting portions of the text and applying codes to them that describe the nature of their content was done.

Step 3: Searching for themes

Practically searching for themes involved a systematic process of data analysis. The researcher began by reviewing the coded segments of data, looking for recurring patterns, similarities, and connections between different codes. This process included reading through the coded data multiple times, organizing codes into potential themes based on their similarities, and exploring relationships between them. Additionally, the researcher employed techniques such as charting or mind mapping to visually represent the relationships between codes and potential themes. Through iterative rounds of analysis and discussion, themes gradually emerged, representing critical aspects of the quality of life and coping strategies for breast cancer patients who have undergone mastectomy. This process ensured that themes were grounded in the data and accurately reflected participants' experiences, thereby enhancing the credibility and trustworthiness of the findings.

Step 4: Reviewing themes

During the analysis, preliminary themes were assessed to ensure they aligned with the data. Major themes were carefully reviewed for coherence and relevance, ensuring that they accurately represented the participants' experiences. .

Step 5: Defining and naming themes

From the thematic analysis, five major themes emerged, each encapsulating the diverse experiences of quality of life and coping strategies for breast cancer patients who have undergone mastectomy. These include the physical pain, emotional distress turmoil, social issues after social isolation, psychological journey and spiritual life. These themes collectively provided a comprehensive understanding of the quality of life and coping strategies among breast cancer patients, guiding future interventions and support systems in their cancer care.

Step 6: Creating the report

Using the identified thematic relationships and patterns derived from the interpretation process, the researcher synthesized the experiences of quality of life and coping strategies for breast cancer patients who have undergone mastectomy. This resulted in insights into the aspects of their journey, contributing to the broader discourse on healthcare support and patient well-being.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents study findings. Where the data are carefully examine and the results of quality of life and coping strategies for breast cancer patients who have undergone mastectomy were unveiled.The primary objective of this chapter was to explore and present the themes and patterns that have emerged from the participants' narratives.

4.2 Participant Demographic Information

The table below shows the demographic characteristics which include participant's age, marital status, education level, occupation and religion.

Table 1. Demographic characteristics of sample (n = 15).

Participant	Age	Marital status	Education	Occupation	Religion
P1	43	Married	Tertiary	Teacher	Christian
P2	36	Single	Primary	Business	Christian
P3	41	Married	Primary	Business	Christian
P4	46	Married	Tertiary	Accountant	Christian
P5	38	Married	Secondary	Farmer	Christian
P6	44	Married	Primary	Business	Christian
P7	42	Single	Secondary	Farmer	Christian
P8	58	Married	Primary	Business	Christian
P9	45	Married	Primary	Farmer	Christian
P10	47	Married	Primary	Farmer	Christian
P11	51	Married	Secondary	Business	Christian
P12	33	Single	Tertiary	Teacher	Christian
P13	49	Married	Primary	Business	Christian
P14	40	Married	Primary	Farmer	Christian
P15	53	Married	Primary	Farmer	Christian

Key= P- participant

Participants were aged between 33 to 60 years, with most of them were within 40 to 50 years. Twelve participants were married and three were single. Nine of the participants had primary education three had secondary education and three had tertiary educations. All the 15 participants were living within Katete District. Participants discussed their quality of life and coping strategies and five themes were presented from the study.

Table 2 illustrates the themes that were physical pain, emotional distress turmoil, social issues after social isolation, psychological journey and spiritual life.

Table 2 Themes, sub themes and codes.

MAJOR THEME	SUBTHEME	CODES
Physical pain	**Physical pain in response to surgery**	1. Limited activity 2 Fatigue
Emotional distress turmoil	**Emotional distress in relation to surgery**	1.Self image 2. Depression
Social issues after social isolation	**Social support and relationships**	1.Personal relationships interference 2.Employment interference
Psychological journey after surgery	**Psychological aspect of Surgery**	1.Anxiety 2. Fear 3. Anger
Spiritual life	**Spirituality**	1. Hope for life 2. Coping mechanism

Table 2 above shows a summary of the identified themes, subthemes, and associated codes, offering a structured overview of the rich qualitative data that emerged from the study. Five major themes emerged regarding participants' quality of life and coping strategies for breast cancer patients who have undergone mastectomy. The responses regarding quality of life and coping strategies for breast cancer patients who have undergone mastectomy were physical pain, emotional distress turmoil, social issues after social isolation, psychological journey and spiritual life. These were derived from participants experienced in the study.

Theme 1: Physical pain

1.1. Physical pain in response to surgery

Women felt pain from deep inside like ants crawling which tends to increase more while moving hands for any work. Some mentioned a kind of prickling and burning sensation at the operated site. The appearance of swelling mainly occurs in the upper arm which causes the limited activity of that particular hand and also expressed the feeling of tenseness, numbness, and heaviness of the operated site.

P1*"I was more active, there are many things I can't do because of my hand, is it right or not? This is what is bothering me that I can't work like before"*

P9*"I need someone to help me at home. It is obligatory; I cannot do everything by myself. I find some difficult to do many things, I can do it but I feel uncomfortable"*

These resulted in the participants experiencing activity intolerance and fatigue. These some of the physical pain were experienced by the clients post mastectomy. Activity intolerance was also reported by breast cancer patients after post mastectomy. It often continues into long-term survivorship.

P11 *"Now I am suffering the discomfort in my hand and I can't work that much because of it. But I say, praise be to God, it is the left hand, because I see someone else in suffering at her right hand, so I say, it should be easier for me to handle, praise be to God"*

Most women pointed out the difficulty in moving their hand against gravity above the heart level. These impacts have limited their capacity to perform activities at home like sweeping, preparing meals, washing dishes, doing laundry, cleaning bathrooms and dusting, and outside occupational work. Thus, required help from others to complete the tasks. Fatigue, described as a persistent and exhausting experience following mastectomy, disrupts the participants' routines and diminishes their ability to engage in activities they once enjoyed. Some participants navigated this experience individually, developing personalized approaches to cope with the relentless of fatigue on their physical. Below is an extract from one of the participants;

P2... ''*I feel more pain especially during the day "*

P6..."*Whenever i feel pain iam unable to do most of the within my around me here.*"

P1 "*Fatigue is one of the worst experiences of after breast surgery for me*".

P4 *"I would often feel exhausted after even the simplest tasks, and I have no energy to do the things I used to enjoy."*

Theme 2: Emotional distress turmoil

The study investigated the emotional distress of individuals who had undergone mastectomy. The clients experienced some emotional problems such as body image concerns and feeling worthless.

P15 *"After surgery, the first time I took a bath and saw myself without breast in the mirror screamed and shouted. It was like I was going crazy. No one could soothe me. I was lamenting in as if I had lost a beloved."*

P10 *"Now my son is depressed, because I have done surgery. I can remember my daughter tears the day after surgery. I felt extremely heavy-hearted. Now that I remember that day, still feel bitter."*

2.1. Emotional distress in relation to surgery

After mastectomy, most participants described themselves as imperfect. Participants also revealed that they did not feel beautiful due to their incomplete body. The participants were ashamed of losing a breast. Breast removal may mean that they lose their appeal as women. The loss of the breast makes the women to have low self-esteem because they feel disfigured. The loss of breast makes them to feel that they are not female.

P12 "*Imagine as young lady leaving without a breast makes me worthless."*

P2 "*Breast is a women's identity that is used for many purposes. However, just now I am feeling incomplete because I lost one of my breasts."*

P1"*What are the benefits of me leaving if don't look like a woman? "… "I still look worthless as women even if one breast was removed. "*

Theme 3: Social isolation Cancer and its treatment alter social roles and limit social activities of patients. In this study, participants reported reductions in social function following mastectomy.

The costs of reduced social function were connected with long-term physical and emotional health. Clients experienced personal relationships interference and employment interference.

3.1 Social support and relationships

During hospital admission clients lost their interactions with the family members and friends. Loneliness also came because of the lack of contact with the family back home. Mastectomy interferes with the employment because of the hospitalization and subsequent reviews. It also included loss of employment. This would collide with the time there were supposed to do their small scale businesses instead they would be in the hospital for medical reviews.

P10 "*Staying in the hospital for a period of time made me miss the social interactions with family and friends"*

P9 *"When iam in this condition some family members didn't want to care for me. From the time I have been in the hospital, my husband was doing his business with his friends and he was not with me… So, I haven't received appropriate care from him."*

P6 "*During admission I stopped selling at the market because there was no to help me sell my merchandise"*

P3 "*It was such bad for me because there was a time when I was supposed to go for orders in Lusaka but I was in the hospital. After I was discharged and was fit, I could go to the market to do business"*.

Theme 4: Psychological journey after surgery

4.1. Psychological aspect of Surgery

Psychological journey experienced post mastectomy clients included fear, anxiety, and anger. Some experience fear of the future and the threat of cancer recurrence resulting in shortened life. Fear is frequently reported in every phase of breast cancer experience. Anxiety was another psychological symptom closely related with fear. This anxiety was compounded by the uncertainty often experienced by the clients following post mastectomy. Participants experienced fear as a result of possibility of reoccurrence of the cancer and death. Others fear that after the operation

they might bleed heavily. Participants also experienced uncertainty about new life style following mastectomy.

P8*"Iam worried on how I will fit in the community with one breast."*

P12"*The breast is the most important part of a women's body that is used for feeding the baby. But after the mastectomy, I am worried that I can't feed my baby because I don't have the breasts"*

P10*"But the breast loss is more distressing than hair loss, it is very painful and till now it is still painful"*

P15… "*I had a lot of fear following breast operation because I didn't know if I will survive or not"*

P5 *"My breast is my beauty! Now I lost it. After surgery, I didn't understand what would happen but I started to cry. I am very disappointed; it is a frustrating condition"*

P13*"I get angry when my friends remind me about my old health lifestyle"*

P7*"When i look at myself in the mirror and see my feminist part is missing, i feel upset. I was crying and saying, Oh my Lord, why me?"*

Theme 5: Spiritual life

Spirituality is an inner resource or aspect of a person that is used to cope with major stressors. Having faith in God is significant in the spiritual aspects. Involvement in spiritual activities such as attending church programs enhances mental and physical health thereby assisting the clients to cope with the condition. Some had psychological concerns such as anxiety and fears. Clients were concerned with issues that caused suffering such as dependency, meaninglessness, hopelessness, being a burden on others, loss of social role, and feeling irrelevant. The patients need help to overcome fears, finding hope, finding meaning in life, finding spiritual resources, or someone to confide with about finding peace of mind and meaning of life.

P14"*I believe in God and know that he is a miracle working God. God can let anything happen at any point in time" ...I also believe that the healer is God so if i trust him everything will be possible.*

P3 "*For now, my only hope is God, and if God says it should stay with me till I die, fine, if it is not His will too, fine. That is what I encourage myself and I do not allow the disease to discourage me at all."*

P11 *"The first shower was very difficult, but I didn't care, I tried to help myself, I said it is something that had happened, I have to accept and I wanted to live for my children. There are many people are suffering more and worse than this, there are people waiting to die, I mean, I kept helping myself with prayers and reading the bible."*

P8*"Iam not even sure whether I will get better after this breast operation.* "

P6 *"Life has really been a difficult journey for me, whenever I want do anything I need to call for help from my elder sister."*

P 10". *I still have faith that I will be fine"*

5.1 Coping mechanism

Coping strategies in cancer involve a range of techniques and approaches to help individuals navigate the challenges associated with the disease. Cancer can have a significant impact on physical, emotional, and social well-being. Coping strategies aim to support individuals in managing the physical symptoms, emotional distress, and changes in daily life that cancer may bring. Some clients used the relatives to assist them do business as coping strategy.

P14 "*I am lucky because I get financial support from my auntie, my brother and my mum, and I thank God, I have them."*

Positive affirmations such as a positive self-image. It was reported that clients would accept their condition as a way of coping strategy. Participants received emotional support from family members living home. Family members called them by phone or visited to encourage and advise them. With fatigue some clients coped up with it by tolerating minor tasks. Some participants reported that they would interact with family members and friends as way coping up with the condition.

P5*"I am beautiful just as I am"*

P10... "*As I adapted to my condition fear has now reduced*"

P15*"I have a lot of people around who support me ,my family members make me happy, they make me feel that I am not alone. They always call me and ask how I am doing. They tell me not to worry and that I will be fine and walk again."*

P3 *"I normally do fewer activities around me here in the hospital." When I chat with my family I feel socially attached"*

P12*"My mother is doing everything possible to ensure I get well. I have a two-and-half-year-old son who my mother does everything for. Washing, cleaning and all other chores are on my mum, she goes to the market and does a lot so I will say that my mother gives cares for me."*

4.3 Conclusion

In conclusion, participants reported on five major themes encompassing various subthemes and codes. The physical pain experienced led to limited activity tolerance and fatigue. They shared their psychological experiences, including feelings of anxiety, uncertainty, and anger. The emotional distress turmoil was explored, highlighting the feeling unworthiness and distorted body image. Social issues after social isolation experiences were discussed, encompassing the personal relationships interferences and employment interference due to long hospital admissions and limited activity tolerance. From these themes it indicates that the participant's quality of life was impaired. Spiritual life experience of the participants involved hope and coping mechanism such as positive affirmation, performing minor tasks and social interaction. These findings emphasize the need for a holistic approach to patient care that considers not only the medical aspects but also the emotional, psychological, social, physical, and spiritual dimensions of their journey.

In this study, participants reported social isolation following mastectomy. This was indicated by costs of reduced social function connected with personal relationships interference and employment interference. This was also due to hospital admissions which made the clients lose their interactions with the family members and friends. Loneliness also came because of the lack of contact with the family back home.

CHAPTER FIVE: DISCUSSION

5.1. Introduction

This chapter elaborates findings of quality of life and coping strategies for breast cancer patients who have undergone mastectomy at St Francis Mission Hospital in Katete Zambia**.** Anchored in the voices and narratives of the participants, this discussion seeks to unravel the dimensions quality of life and coping strategies for breast cancer patients who have undergone mastectomy. This chapter aims to illuminate quality of life and coping strategies for breast cancer patients who have undergone mastectomy. Additionally, it also includes pragmatic recommendations and the study limitations.

5.2. Demographic characteristics

The demographic data of the 15 participants in the study reveal a diverse range of characteristics. The majority of participants were within 40 years. The findings are similar to the study done in India which indicated that majority of the participants were within 40 years (Ruggeri et al., 2022). This is contrary to the study conducted in Ghana which showed that 80% of the participants were above 40 years (Quayson et al., 2021). The disparity in age range may be attributed by lifestyle behaviors in their quality of life different countries.Older age influences the development of breast cancer (Font, 2020). The findings regarding marital status show that 80% of participants were married. This correlates with the findings of the study conducted in United States which indicated that most of the respondents were married (Jemal et al., 2021). In terms of education, 20% of the participants had completed tertiary education, indicating a relatively high level of educational attainment within the sample. This is parallel to the study conducted by Whitford, (2022) in United Kingdom showed 70% of the participants had completed their tertiary education. Another study conducted in Nigeria by Aziato et al .,(2021) indicated that majority of the respondents had attained their tertiary education which had contrary findings from the current study. This educational diversity within the group can have implications for how participants understand and navigate their healthcare experiences. Those with higher education levels might have different post-surgical experience from those with primary or secondary education backgrounds (Smith et al., 2022). Occupationally, the participants encompassed a range of roles, with business (40%) and farming (40%) being the most common. A study conducted in Egypt by Howell, (2020) showed that 60%

of the participants were in formal employment which contrary to the current findings. Another study conducted in Sudan by Islami et al., (2022) showed that 80% of the respondents were into business and farming which has similar findings in this study. The different occupational backgrounds of the participants highlight the potential variability in their economic and social resources which can significantly influence their quality of life and coping strategies. Another finding is that all participants identified their religious affiliation as Christians. A similar study was done in Tanzania which also showed that all the participants had Christianity as their religious affiliation (Zamora et al., 2021). In contrary the study conducted by Chen et al., (2022) in China 50% of the participants were Christians. The uniformity in their religious affiliation can indicate a strong cultural and social factor that may influence their coping strategies, support networks, and perspectives on illness (Folkman et al., 2020).

5.3. Quality of life

Theme 1: Physical pain

With regards to pain, pain emerged as a one of the theme in the quality of life post mastectomy patients. In this study it shows that the participants experienced limited activity and fatigue. Safaei et al., (2021) revealed that the women who had undergone mastectomy had higher levels of fatigue which have the similar findings with this study. Another study by Ali, (2021) showed the participants experienced limited activity due to the surgery, such as reduced hand mobility and the need for assistance in daily activities and this is in line with the current findings.

A study by Kumar et al., (2023) in Western Rajasthan revealed that the participants experienced prickling and burning sensation at the operated site which is consistence with the in this study. A study conducted in Ethiopia showed that the participants experienced high fatigue in their quality of life (Becky et al., 2020). This was in contrast with a study by Goss et al., (2021) in Libya shows that the participants had less fatigue. The pain resulted into limited activity and fatigue. (Hermoso et al., 2021).

The similarity of the studies is that the appearance of swelling mainly occurs in the upper arm which causes the limited activity of that particular hand and also expressed the feeling of tenseness, numbness, and heaviness of the operated site. These made them to be limited in their capacity to perform activities at home like sweeping, preparing meals, washing dishes, doing laundry,

cleaning bathrooms and dusting, and outside occupational work. Thus, required help from others to complete the tasks (Hamid et al., 2021).

Theme 2: Emotional distress turmoil

In this study, participants experienced emotional distress such as loss of self-esteem and altered body image. According to the study by Rubino et al., (2021) in Spain revealed similar findings with the current which also showed higher levels of body image issues. This study also indicated that the loss of the breast made them to have low self-esteem because they felt disfigured.

In contrary, the study by Gernaat et al., (2020) revealed that the participants had no body image issues. Another study conducted in Kenya by Fouke, (2021) revealed that the respondents experienced high emotional distress which is consistence with this study. The Germanian study conducted by Taket, (2022) indicated that the participants with emotional distress were few which is contrary to this study. According to the study by Kocan, (2020) showed feelings of depression, anguish, uncertainty, and fear are most experienced by the women from the moment they had undergone through mastectomy which is in line with this study.

The disparity is that body image issues are further augmented by the fact that women post-mastectomy have issues in finding right undergarments for use. This is one of the factors that make it difficult for women post-mastectomy to socially adapt in society (Froeding et al., 2020). There is no support offered to these women and these patients need more guidance and more resources for choosing the right garments such that they can feel comfortable (Bresser et al., 2019).

Theme 3: Social issues after social isolation

In this study, participants reported some social isolation following mastectomy. A comparative by study done Chiu et al., (2020) on quality of life between post-mastectomy and breast-conserving therapies observed that mastectomy had a huge impact on making social contact which has similar results of this study. In contrary, a study by Classen et al., (2018) in India showed that supportive care was essential for women with breast cancer, as it helps to conduct their social function normally. A South African study by Devi, (2021) indicated that they were unable to conduct their businesses normally which has similar findings in this study. The results of this study showed that some participants experienced loss of employment. A study was conducted by Smith et al., (2022)

indicated that the burden of poor QOL outcomes was greater among younger who were unable to perform their social function which also revealed the similar results with this study. According to the study in Ethiopian women by Piekut et al., (2020) it showed that breast cancer patients who underwent mastectomy performed poor in terms of work which indicates similar findings with this study. Castillo, (2020) revealed that the participants had experienced loneliness which is line with study.

A study conducted by Boudioni et al.,(2021) in Iran indicated the participants had experienced employment loss which is line with this study. The disparity is that cancer and its treatment alter social roles and limit social activities of patients. This was indicated by costs of reduced social function connected with personal relationships interference and employment interference. However, another disparity was also due to hospital admissions which made the clients lose their interactions with the family members and friends. Loneliness also came because of the lack of contact with the family back home (Kerai et al., 2022).

Theme 4: Psychological journey after surgery

This study showed that participants experienced significant anxiety, fear and anger. A study was conducted in the University of Western Australia by Alkaff et al., (2022) revealed that all women were anxious and also had psychological distress following mastectomy which is consistence with this study. A similar study by Siegel et al., (2020) on the effect of breast cancer and its treatments such as mastectomy on a patient showed psychological discomfort, especially mood disorders, depression, anxiety, anger and fear which is in line with the current study. According to the study done by Bourge et al., (2021) on the quality of life in breast cancer patients undergoing mastectomy showed high levels of anxiety and fear which correlates with the findings of the current study. The findings from the study conducted by Hussain et al.,(2022) revealed that raising children was one of the worries of participants because of the uncertainty of their disease consequences which is constetency. Anxiety was high among post mastectomy women a study conducted in Ghana by Niemeyer, (2020) which is similar to this study. Another study conducted in Tanzania by Malvia et al., (2021) showed that the participants were worried about a small kid still requiring breastfeeding at time of operation which has similar findings in study.

The similarity in the study findings is that patients experience fear as a result of physical symptoms, such as pain, possible reoccurrence of the cancer and possibility of death. Fear of recurrence was also reported from clients. Others fear that after the operation they might bleed heavily (Hong et al., 2021). If these psychosocial problems are not addressed it can lead to suicidal ideations, severe depression and poor response to treatment. The effects include greater distress, poor outcomes, and reduced quality of life (Gradishar et al., 2020).

Theme 5: Spiritual life

In this study the participants had hope that God would make life better. According to Abraham et al., (2020) study it revealed that coping strategies such as religion was considered more adaptive and associated with a higher quality of life which is in line with the current study. Another study by Han, (2020) showed that the participant found hope through religion which has similar findings with the current study. Another study by Jemier et al.,(2023) showed the participants expressed hope in God that they would get better which is similar to this study. The study by Vandna, (2023) reviewed participants had hope in God and encouraged themselves that God would heal them which is similar to this study. According to the study conducted in South Africa by revealed that most of the participants believed prayer solves all problems and that God is the healer which is line with this study

Spirituality is an inner resource or aspect of a person that is used to cope with major stressors. Having faith in God is significant in the spiritual aspects. Involvement in spiritual activities such as attending church programs enhances mental and physical health thereby assisting the clients to cope with the condition (Cullen, et al., 2020**).** In the different study findings the similarity that the participants need hope to overcome fears, finding hope, finding meaning in life, finding spiritual resources, or someone to confide with about finding peace of mind and meaning of life.

5.4 Coping Strategies

In this study the coping strategies include positive affirmation, minor exercising and family support. In contrast, Hanoch, (2018) findings done in Canada showed that mastectomy-treated breast cancer survivors generally used a combination of cognitive and behavioral coping mechanisms to deal with the wide range of stressful situations which is not consistence with this study.Similarly, Font, (2020) revealed that women present an active coping style, helping them to

carry out activities that are enjoyable such as reading, walking, or physical exercises which has similar findings of this study. Mishra et al., (2021) findings showed that providing psychological support before surgery helped the patients to cope with the surgery and has positive outcomes which is consistent in this study.

A study conducted by Jeff et al., (2021) showed that participants received emotional support from family members living home and abroad which is in line with this study. According to the study done in Iran by Folkman et al., (2020) showed problem-focused coping strategies, such as cognitive acceptance, positive and constructive thinking, and using emotional support which is consistence with this study.

A similar study conducted by Jepar., (2021) indicated that trying to be hopeful and trying to have a positive, optimistic perspective and cognitive acceptance have very important roles among young women who are married and have relatively young or school age children which is consistence with findings of this study.. In another study by Sheehan et al, (2020) Libya showed resilience as a coping strategy which is contrary to this study. A study by Calderon et al., (2021) revealed emotional support was the most frequently coping style utilized which is line with this study. The disparity is that the patients draw strength from positive changes in their health, stories of other survivors, and an enduring belief in the power of treatment and the resilience of the human spirit. Examples of coping strategies include constructive problem-solving, avoiding or escaping stressful situations, and reaching out to others for help (Rosberger et al., 2020).

5.5. Summary of discussion

The findings from this study reveal interconnected journey marked by emotional, psychological, social, physical, and spiritual domains of quality of life. Emotional distress, social isolation, pain and psychological journey emerged as predominant themes with patients expressing concerns about health post mastectomy indicating that their quality of life was impaired. A subtheme of self-image persisted, highlighting the patient's ability to draw strength from positive changes in health and supportive narratives. Psychologically, coping mechanisms, emotional adjustment, and treatment-related fears played fundamental roles in shaping the psychological landscape of patients. The study emphasizes the universal nature of these psychological challenges, with coping strategies such as positive thinking and minor exercise. Socially, the importance of community

support, workplace support, and the role of healthcare providers emerged as important elements influencing the cancer journey. Physically, the study explored into the quality of life and the coping strategies employed by patients. From anxiety and fear to pain, self-image, and social support was substantial.

Finally, financially, the study explained the complex social burden of cancer, including relationship interference, impacts on self-image, and coping strategies. The findings underscore the need for comprehensive, patient-centered interventions to alleviate the psychological burden and enhance the overall well-being of cancer patients and their families.

5.6. Implications to Nursing

5.6.1. Nursing Practice

The findings of this study hold significant implications for nursing practice, particularly in oncology and surgical care. Nurses, as frontline healthcare providers, can integrate a holistic approach by recognizing and quality of life and coping strategies by breast cancer patients after surgery. Implementing patient-centered care that consider psychological sensitivity and individualized coping strategies will enhance the overall quality of nursing practice. Empathy, effective communication, and the incorporation of evidence-based interventions for managing treatment-related symptoms are important components that nurses can integrate into their practice to better support the well-being of breast cancer patients who have undergone mastectomy.

5.6.2. Nursing Administration

In nursing administration, the study's findings highlight the need for adaptable and patient centric healthcare systems. Nursing administrators should focus on fostering a supportive environment that recognizes the financial strain associated with cancer care. This involves collaborating with psychological counselors, developing assistance programs to alleviate the economic burden on patients and their families. Additionally, promoting interdisciplinary collaboration between nursing and mental health professionals will enhance the psychological support available to patients. Creating comprehensive training programs for nursing staff that emphasize cultural competence and sensitivity is important for ensuring that healthcare delivery aligns with the diverse backgrounds and needs of patients.

5.6.3. Nursing Education

In nursing education, the study suggests a need for an enriched curriculum that prepares future nurses to address the quality of life and coping strategies post mastectomies.

Integrating courses on patient advocacy, and holistic care will empower nursing students with the knowledge and skills necessary for comprehensive patient support. Case studies on the study's findings can be incorporated into educational programs to provide real-world insights into the emotional, psychological, social, and spiritual aspects of cancer care. Simulation exercises that simulate patient interactions can further enhance students' abilities to provide empathetic and psychosocial sensitive care.

5.6.4. Nursing Research

For nursing research, this study emphasizes the importance of further exploration into community specific interventions and support systems for post mastectomy breast cancer patients. Future research can explore deeper into the effectiveness of various coping strategies and quality of life in various community contexts. Investigating the quality of life and coping strategies on psychological and social support networks and healthcare experiences will contribute to the development of more targeted interventions. Longitudinal studies that track patients' experiences throughout the entire cancer journey, including survivorship, can provide valued insights into the long-term effects of interventions and areas for ongoing improvement in nursing care.

5.7. Recommendations

5.7.1. To Ministry of Health

1. The Ministry of Health should prioritize the development more psychosocial support programs for cancer patients, particularly those who have undergone mastectomy. This includes creating avenues for increased psychosocial support program, providing more cancer support groups and establishing partnerships with charitable organizations to provide financial assistance. By alleviating the emotional distress and psychological problems on patients, the Ministry can ensure that individuals have timely access to social groups and psychosocial therapy without compromising their financial stability.

2. The Ministry should invest in continuous education and training programs for healthcare professionals, with a specific focus on oncology. This training should encompass empathetic communication and the integration of holistic care practices. By ensuring that healthcare providers are equipped with the skills to address the emotional, psychological, social, and physical aspects of cancer treatment, the Ministry can enhance the overall quality of care and contribute to better patient outcomes.

5.7.2. To St Francis Mission Hospital

1. The St Francis Mission Hospital should consider implementing multidisciplinary support teams that include nurses, psychologists, social workers, and financial counselors. This approach ensures that patients receive comprehensive care addressing their emotional, psychological, social, and physical needs. Collaborative efforts between healthcare professionals will enhance the effectiveness of interventions and provide a more holistic support system for patients undergoing breast cancer treatment.
2. Enhancing patient education initiatives within the hospital is important to empower individuals with knowledge about the various aspects of cancer treatment. This includes educating patients on coping strategies such as social support options, psychological therapy and community resources. By providing comprehensive and community education, the hospital can empower patients to actively participate in their care, make informed decisions and better navigate the quality of life associated with post mastectomy breast cancer patients.

5.9 Limitations of the Study

To address the limitations stemming from the subjective nature of the study, several measures were implemented to enhance the rigor and credibility of the research findings. Firstly, bracketing techniques were employed to acknowledge and minimize the potential biases introduced by the researcher's own perspectives and assumptions (Tufford et al.,2019). By consciously setting aside preconceived notions and assumptions during data collection and analysis, efforts were made to maintain objectivity and ensure that the interpretations remained grounded in the participants' experiences rather than the researcher's preconceptions (Rolls et al.,2021). Additionally, steps were taken to establish trustworthiness and credibility throughout the research process.

Furthermore, efforts were made to enhance the dependability and conformability of the study findings. Rigorous data collection and analysis procedures were employed, including verbatim transcription of interviews, systematic coding and categorization of data, review and refinement of themes. By adhering to a consistent and transparent methodology, the study aimed to establish the dependability and conformability of its findings (Robbins , 2021). Overall, by implementing these strategies, the study aimed to mitigate the limitations associated with subjective data collection methods and enhance the credibility, dependability, and conformability of the research findings.

5.10. Dissemination and Utilization of Findings

The findings of the study will be disseminated to relevant stakeholders to promote the implementation of recommendations and facilitate the utilization of data for practical applications and long-term research prospects. Executive summaries will be prepared and provided to the Ministry of Health, while a hard copy of the research report will be submitted to various institutions including the University of Zambia - School of Nursing Sciences, UNZA Medical Library, and St Francis Mission Hospital in Katete and Katete District Health Office. Additionally, the results will be published in relevant journals to ensure wide accessibility to healthcare professionals and policy-makers. This dissemination strategy aims to ensure that the results are widely available for immediate practical applications within the hospital setting, informing targeted interventions and support systems tailored to the unique needs of breast cancer patients who have undergone mastectomy. Furthermore, the identification of commonalities with international studies underscores the global relevance of the quality of life and coping strategies faced by these patients, presenting opportunities for collaborative solutions and informing healthcare policies at both the hospital and national levels. In the long term, the data obtained from the study serves as a valuable foundation for future research endeavors, enabling a more exploration of coping strategies and quality of life in the breast cancer care.

5.8 Conclusion

In conclusion, in this study the purpose was to explore the quality of life and coping strategies of post mastectomy breast cancer patients at St Francis Mission Hospital in Katete, Zambia. The research findings showed the emerging of the major themes such as physical pain, emotional

distress turmoil ,psychological journey, social isolation, spirituality and the coping strategies faced by these patients, shedding light on post mastectomy breast cancer patients.

The study also showed that the quality of life was impaired because of the effects on physical, psychological, emotional and social domains. This was because of current study findings showed that the participants had limitation in conducting the activities,had distorted self image,fear of reoccurrence of cancer interfearing with their quality of life. The coping strategies included hope, positive affirmation, performing minor tasks and social interaction. In this current study it was an indication that post mastectomy breast cancer patients require holistic care to address their quality of life.

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APPENDICES

Appendix I :Participants information sheet

Title of study: **Quality of life and Coping strategies for breast cancer patients who have undergone mastectomy at St Francis Mission Hospital in Katete District.**

Researcher: Fordson Zimba

Introduction:

You are being invited to participate in a research study. Before you decide, it is important for you to understand why the research is being done and what it involves. Please take your time to read the following information carefully. Feel free to ask questions and discuss this study with the research team or other people important to you. Your participation is voluntary, and you may withdraw at any time without consequences.

Purpose of the Study:

The purpose of this study is to explore quality of life and coping strategies for breast cancer patients who have undergone mastectomy at St Francis Mission Hospital in Katete District.

Study Procedures:

You will be asked to discuss your quality of life and coping strategies following mastectomy. The estimated time required for your participation is approximately 30 minutes. The interview will be conducted in the language that you feel most comfortable speaking. If necessary, a qualified translator will be provided to ensure that the interview is accurately translated into your preferred language. Please let us know which language you would like to use for the interview.

Risks and Benefits:

There are no known risks associated with participating in this study. However, you may find it emotionally difficult to discuss your experiences of quality of life and coping strategies after mastectomy. You may benefit from sharing your experiences, as it may help you to cope with your illness.

Confidentiality: All information gathered during the study will be kept strictly confidential. Your name and any identifying information will not be used in any reports or publications arising from the study. All data will be stored securely and only accessed by the research team.

Voluntary Participation: Participation in this study is entirely voluntary. You have the right to withdraw from the study at any time without penalty.

Contact Information- If you have any questions or concerns about the study, please feel free to contact the researcher(s) using the contact information provided below. If you have any concerns about the conduct of the study, you may contact the Ethics Committee at **The University of Zambia Biomedical Research Ethics Committee.**

Thank you for taking the time to read this information. If you would like to participate in the study, please sign the consent form below.

Fordson Zimba

Contact Information: wwwfordsonzimba@gmail.com or +260 977111571

UNZABREC chairperson; s.munsaka@unza.zm or Mobile; +260977925304

Appendix II: Consent Form

I have read the Participant Information Sheet and understand the nature of the study. I have had the opportunity to ask questions and have received satisfactory answers. I consent to participate in the study.

Name (print): _____ Date: _____

Signature: _____

Thumb print: _____

Appendix III : Interview guide (In-depth interview)

Instructions to interviewer

1. Introduce yourself to the respondent

2. Explain the purpose of the interview

3. Do not write name of the respondents on the interview schedule

4. Get informed written consent from the respondent

5. Reassure the respondent that all responses will be held in strict confidence

6. Individual names and addresses should not appear on the interview schedule

7. Ensure that all questions are answered and indicate response by ticking in the appropriate box (e.g. √) or filling in the space(s) provided

8. Provide time for the respondent to ask questions at the end of the interview

Thank the respondent at the end of each interview.

Section A: Socio demographic data

1. Age Grouping
    a) 18yrs – 23yrs
    b) 24yrs - 29yrs
    c) 30yrs – 35yrs
    d) Above 35yrs
2. Marital Status
    a) Single
    b) Married
    c) Divorced
    d) Widowed
3. Household Income Status (Amount ZMW)
    a) 0-2999

b) 3000-5999
c) 6000-9999
d) Above10000

4. Employment Status
    a) Housewife
    b) Businesswoman
    c) I work in the civil service
    d) I work in the private sector
    e) Unemployed
5. Education Level attained
    a) No formal education
    b) Some primary education
    c) Primary
    d) Some secondary
    e) Secondary
    f) Diploma
    g) Undergraduate Degree
    h) Post Graduate

6. Religious denomination
    a) Islam
    b) Christianity
    c) Muslim
    d) Traditional
7. Occupation
    a) Trader/ artisan(Self Employed)
    b) Formal employment
    c) Housewife / unemployed [ ]
    d) Others (specify)……
8. Tribe
    a. Bemba

b. Tonga
c. Lozi
d. Lubale
e. Nyanja
f. Others (specify)……

9. Number of children
   a) Less than 3
   b) 4-5 individuals
   c) More than 6

Section B: Quality of life

Answer all of the following questions based on your life at this time.

10. How would you describe physical health?

11. How good is your quality of life?

12. How much happiness do you feel?

13. How satisfying is your life?

14. Has your illness or treatment caused changes in your self-concept (the way you see yourself)?

15. What type of distressing do have?

16. How much anxiety do you have?

17. To what extent are you fearful?

Section C: Coping strategies

18. How difficult is it for you to cope today as a result of breast operation?

19. What is your present ability to concentrate or to remember things?

20. How distressing has your breast operation been for your family?

21. What is the amount of support you receive from others to meet your needs?

22. How is your continuing health care interfering with your personal relationships?

23. To what degree has the treatment interfered with your employment?

24. To what degree has your illness and operation interfered with your activities at home?

25. How hopeful do you feel for your condition?

26. How do you deal with emotional feelings following surgery of the breast?

Thank You for Your Participation

UNIVERSITYOFZAMBIA
BIOMEDICALRESEARCHETHICSCOMMITTEE

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Federal Assurance No. FWA00000338 IRB00001131 of IORG0000774 NHRAR-REC No 2021-05-0002

11th May, 2024

Your REF. No. 5155-2024

Mr. Fordson Zimba,
University of Zambia,
School of Nursing Sciences,
P.O Box 50110, **Lusaka.**

Dear Mr. Zimba,

RE: **QUALITY OF LIFE AND COPING STRATEGIES FOR BREAST CANCER PATIENTS WHO HAVE UNDERGONE MASTECTOMY AT ST FRANCIS MISSION HOSPITAL IN KATETE ZAMBIA (REF. NO. 5155-2024)**

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 10th May, 2024. The proposal is **approved**. The approval is based on the following documents that were submitted for review:

a) Study proposal
b) Questionnaires
c) Participant Consent Form

APPROVAL NUMBER : REF. No. 5155-2024.

This number should be used on all correspondence, consent forms and documents as appropriate.

i. **APPROVAL DATE : 11th May 2024**
ii. **TYPE OF APPROVAL : Standard**
iii. **EXPIRATION DATE OF APPROVAL : 10th May 2025**
iv. After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the UNZABREC Offices should be submitted one month before the expiration date for continuing review.
v. **SERIOUS ADVERSE EVENT REPORTING**: All SAEs and any other serious challenges/problems having to do with participant welfare, participant

safety and study integrity must be reported to UNZABREC within 3 working days using standard forms obtainable from UNZABREC.

vi. **MODIFICATIONS**: Prior UNZABREC approval using standard forms obtainable from the UNZABREC Offices is required before implementing any changes in the Protocol (including changes in the consent documents).

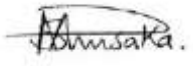
vii. **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the UNZABREC using standard forms obtainable from the UNZABREC Offices.

viii. **NHRA:** You are advised to obtain final study clearance and approval to conduct research in Zambia from the National Health Research Authority (NHRA) before commencing the research project.

ix. **QUESTIONS**: Please contact the UNZABREC on Telephone No. +260977925304 or by e-mail on unzarec@unza.zm.

x. **OTHER**: Please be reminded to send in copies of your research findings/results for our records. You are also required to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study. Use the online portal: unza.rhinno.net for further submissions.

Yours sincerely,



Prof Sody Munsaka, PhD
CHAIRPERSON

MINISTRY OF HEALTH

NATIONAL HEALTH RESEARCH AUTHORITY

The Health Research Act

(Act No. 2 of2013)

CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT

Fordson Zimba

has been registered as a Health Researcher

Dated this 12th December 2023

Registration number NHRAR-R-1159/13/12/2023

A/DIRECTOR AND CHIEF EXECUTIVE OFFICER

PROF. VICTOR CHALWE

SAINT FRANCIS' HOSPITAL
KATETE - ZAMBIA

Joint Anglican and Catholic Management Board
St. Francis' Hospital
Private Bag 11
Katete, Zambia
Tel: 096 350 6695 email: sfmh@sfmhzambia.com

27th August 2024

Fordson Zimba
St. Francis' Hospital
Private Bag 11
Katete

Dear Fordson Zimba,

RE: QUALITY OF LIFE AND COPING STRATEGIES FOR BREAST CANCER PATIENTS WHO HAVE UNDERGONE MASTECTOMY AT ST FRANCIS MISSION HOSPITAL IN KATETE ZAMBIA.

The above subject matter refers.

This is to confirm that your request to conduct research at this institution has been approved subject to the following conditions:

1. Ensure that you send us a copy of your dissertation (in both hard and soft copy) when it is finalised.
2. Submit the expected date of completion of your research and the research focal point person on the following email address: john.mvula@moh.gov.zm for ease of follow up.

Wishing you well in your research endeavour.

Your faithfully,

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
ST FRANCIS CENTRAL HOSPITAL
27 AUG 2024
SENIOR MEDICAL SUPERINTENDENT

Dr. Lalick O. C. Banda
Senior Medical Superintendent