UNIVERSITY OF ZAMBIA  
SCHOOL OF MEDICINE  
DEPARTMENT OF NURSING SCIENCES  

KNOWLEDGE OF BREAST CANCER, RISK FACTORS, SYMPTOMS 
AND SCREENING METHODS AMONG FIRST DEGREE FEMALE 
RELATIVES OF BREAST CANCER PATIENTS AT CANCER 
DISEASE HOSPITAL, LUSAKA.  

BY  

LUNGU GLADYS  
REGISTERD NURSE- 1995 (LUSAKA)  

A RESEARCH STUDY SUBMITTED IN PARTIAL FULFILMENT OF 
REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE 
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UNZA 2011
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<td>BSE</td>
<td>Breast Self-Examination</td>
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<td>CBE</td>
<td>Clinical Breast Examination</td>
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<td>CSO</td>
<td>Central Statistical Office</td>
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<td>Health Belief Model</td>
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<td>Inflammatory Breast Cancer</td>
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<td>Information, Education Communication</td>
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<td>Mammogram</td>
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DECLARATION

I hereby declare that the work presented in this study for the Bachelor of Science in Nursing Degree has not been presented either wholly or in part for any other Degree and is not being submitted for any other degree.

SIGNED: G. Lungu  DATE: 1.6.2011

(Candidate)

Approved by: __________________________  Date: 1/6/2011

(Supervisor)

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF NURSING SCIENCES
PO BOX 50110 LUSAKA
STATEMENT

I hereby certify that this study is entirely the result of my own independent investigation. Various sources to which I am indebted are clearly acknowledged in the context and in the reference.

SIGNED: G. Jungal  DATE: 1.6.2011 

(Candidate)
DEDICATION

I dedicate this work to my late parents Benedict Lungu and Adelaide Daka who always encouraged me to work hard in life. May their souls rest in peace.
Abstract

Breast cancer is becoming a major health concern and late presentation of patients in advanced stages of disease forms the hallmark of breast cancer in Zambian women. Deaths from breast cancer can be prevented if women are educated on how to do breast self examination every month (Mukupo and Mubita-Ngoma, 2005).

The study was aimed at determining the relationship of breast cancer knowledge on risk factors, symptoms and screening methods among first degree female relatives of breast cancer patients. Literature review was on knowledge regarding breasts cancer risk factors, symptoms and screening methods. The target population was in the age range of 30-50 years who accompanied their relatives to the hospital for chemotherapy and review. The study was conducted at Cancer Disease Hospital while the pilot study was conducted in G- Block at the University Teaching Hospital to test the structured interview schedule. A total number of 50 participants were recruited using non probability (convenience) sampling method. Data was collected using a structured interview schedule over a period of 21 days in November 2010. The data were analyzed using SPSS 17.0

The results revealed that the almost two third, 32 (64%) of the respondents had heard about breast cancer however two thirds, 33(66%) of the respondents were not aware of the risk factors for breast cancer. Only 6% of the respondents could correctly identify all the nine breast cancer risk factors. Almost half, 24(48%) of the respondents were not aware of the symptoms of breast cancer that were listed. Furthermore, the study revealed that, 15 (30%) of the respondents got information on breast self examination from health professionals, 3(6%) through publications and 1(2%) through Television /Radio. Almost two thirds, 32(64%) of the respondents stated that breast self examination was not useful.

The overall knowledge of breast-cancer, risk factors and performance of breast self examination results showed that 39 (78%) of the respondents had medium knowledge on breast cancer risk factors, symptom and screening methods.
Further studies on a wider scale are needed to establish the reasons why the women do not come for clinical breast examination and why the physicians do not practice routine clinical breast examination.
CHAPTER ONE

1.0 INTRODUCTION

1.1. BACKGROUND INFORMATION

Breast Cancer is a malignant tumor of the breast. Every woman is at some risk of developing breast cancer. There are diverse risk factors that may affect each woman’s susceptibility to the disease (Cherry et al, 2006). Breast cancer is the most common cancer in women accounting for 23% of all cancers. It is the first most common cancer in women globally, affecting approximately 1 in 11 women in the United Kingdom, usually after the age of 50 (Oat and Abraham, 2005). In the United States of America, the disease is second to lung cancer as the leading cause of death in women with cancer (Potter and Perry, 2005).

Over one million cases of breast cancer and 411,000 deaths from breast cancer occur annually representing 14% of female cancer deaths worldwide. The incidence rates are higher in industrialized and more affluent countries probably as a result of the availability of early cancer screening programs that detect early invasive cancer some of which would have progressed to the late stage of the disease (Parkin et al, 2005). As a result, the mortality rate from the disease is lower in these countries.

The risk also increases with number of first degree relatives affected. A strong family history means that a mother, sibling, child, had breast cancer. Another risk factor is the age at which a woman begins her menstrual cycles. Women who start their menstrual cycle below the age of 14 have a higher risk for breast cancer. Race is also a contributor to the risk factors for breast cancer. White women in North America have slightly higher risk than Black, Hispanic or Asian women, and considerably higher risk than women who have recently emigrated from Asia. The age at which a woman gives birth to her first child can also determine the risk for breast cancer. Women who give birth to their first child after the age of 19 have a higher risk for breast cancer. Risk also increases with amount of alcohol consumed; hence women who drink alcohol are at a higher risk for breast cancer. The use of Oral contraceptive Birth Control Pills (BCP) can slightly increase the risk, and the slight risk gradually disappears when BCPs are no longer used (Halls, 2008). Other risk factors
include: a personal history of breast cancer or ovarian cancer, therapeutic radiation treatment, having breast cancer type 1 or breast cancer type 2, gene mutations of TP53 also carry a high risk of breast cancer in younger women, (Oats and Abraham, 2005). In addition Rimer, et al, 1990 states that smoking increases the risk for breast cancer.

In Africa, breast cancer is the second leading cause of death among women and the incidence rates appear to be rising (Stanhope and Lancaster, 1996). In a recent oncological review of cases in Jos, Nigeria, over an 8-year period, breast cancer was reported to account for 56.6% of all cancer diagnosis between 1995 and 2002, (Mandong et al, 2004). Among Nigerian women, the peak age of breast cancer presentation is about 10-15 years earlier than what is observed in Caucasian women, where it occurs between the ages of 35-45 years. Seventy percent of Nigerian women present with advanced staged disease while the five-year survival rate is less than 10% compared with over 70% in Western Europe and North America (Okobia et al, 2006).

Records at the Cancer Diseases Hospital (CDH) show that breast cancer was second to cancer of the cervix for the year 2008 and 2009. In 2008, there were 106 treated cases of breast cancer, 2009 the first 3 quarters recorded 37 new cases while in 2010 there were 135 new cases.

Breast cancer is the second principal cause of cancer mortality among women worldwide including Nigeria. Breast cancer mortality rates are higher in developing countries as a result of late detection and diagnosis. Several factors are attributable including genetics, cultural and social factors such as poverty, unequal access to prompt high quality treatment, lack of screening facilities, or lack of awareness and knowledge of the disease (Okobia et al, 2006, Adebamowo et al 2005 and Adebamowo et al, 2000).

Early detection is the only way to control the disease and therefore reduce prevalence. This is because by the time the cancer can be palpated easily, spread is likely to have already occurred (Oat and Abraham, 2005). According to Cancer Diseases Hospital Register, in 2008, about 17.02% of women were in an advanced stage of breast cancer. In 2009 the number was 6.58%. Knowledge of risk factors, symptoms and screening methods by women
who have a family history of breast cancer can help them to adhere to recommended breast self-examination and breast cancer screening and thus early detection.

The classic symptom for breast cancer is a lump found in the breast or armpit. An aggressive type of this disease, inflammatory breast cancer (IBC), grows in sheets or nests of tumor cells that invade the skin and can resemble a rash. Other symptoms that can be seen or felt are swelling or lump (mass) in the breast, swelling in the armpit (lymph nodes), Nipple discharge (clear or bloody), pain in the nipple, inverted or retracted nipple, scaly or pitted skin on nipple, persistent tenderness of the breast, unusual breast pain or discomfort. Symptoms seen on Breast Imaging include micro calcifications in tight clusters and dense mass with spiky (speculated) outline.

Symptoms of advanced (Metastatic) or stage 4 breast cancer which is the most advanced stage of this disease are bone pain (bone metastases), shortness of breath (lung metastases), drop in appetite (liver metastases), unintentional weight loss (liver metastases), and headaches, neurological pain or weakness (could be brain metastases).

According to Smith et al 2006, there are three main ways to screen for breast cancer: mammogram, breast Magnetic Resonance Imaging (MRI) and breast self-examination. Mammogram — a breast X-ray, is the best screening test for reducing the risk of dying from breast cancer.

Breast self-exam is a way of finding changes in your one’s breasts. Most studies have not found breast self-examination to be helpful in reducing the risk of dying from breast cancer. Nevertheless, some women feel that doing breast self-examination on a regular basis improves their ability to find changes that would otherwise not have been noticed. Another screening method is breast Magnetic Resonance Imaging (MRI). MRI uses a strong magnet rather than x-rays or radiation to create a detailed image. Breast MRI may be recommended to help find breast cancer in certain situations.
1.2 STATEMENT OF THE PROBLEM

Records from the Cancer Diseases Hospital show that Breast cancer cases are increasing from 37 in 2009 to 137 in 2010. Lack of knowledge of breast cancer, risk factors, symptoms and screening methods result in late detection of the malignancy. Breast cancer detected in its late stage is very difficult and almost impossible to treat. If detected in its late stage, women tend to be devastated, as breasts are part of what makes a woman feel feminine. The thought of surgery and other cancer treatments play the overall psyche. The psychological effects of breast cancer are an interrelationship of the pain and how a woman defines herself because pain and psychology go hand in hand. Physical pain does not just affect the body, it also affects the mind. A woman can become depressed when dealing with the pain associated with breast cancer treatment since she may no longer be able to participate in activities that she once enjoyed. One of the major psychological effects of breast cancer occurs when a woman anticipates whether or not she will lose her breasts. Even if they remain intact, she may wonder if she will be complete after having treatment, especially if she has a scar.

Another psychological effect of breast cancer is how the cancer patient interacts with those close to her. She may feel like a victim in the eyes of friends and family members. This feeling worsens if she is not treated with respect by others or if people avoid her. It is common for a cancer patient to feel a sense of loneliness as well as discrimination. Declined desire for intimacy is another psychological effect of breast cancer. A woman may actually have a lower libido because of the treatments, or mentally, she may shut that part of herself off because she may feel that no man would want her that way.

The family is also traumatized psychologically and physically as they care for breast cancer patients. The health care providers and the entire health sector will also have a burden in terms of nursing and provision of bed spaces for these women as breast cancer is a chronic disease.

Breast cancer is the second most common cancer among women in Zambia (Mukupo and Mubita-Ngoma, 2005). This lack of knowledge may be because the current public education materials are too complex for their understanding and/or due to a lack of interest on the part
of the women and leads to late presentation to the hospital and as such patients may not benefit from surgery, chemotherapy and radiotherapy. If women have the knowledge of breast cancer, risk factors, symptoms and screening methods, the abnormal breast growths would be managed early and patients would benefit from the locally available treatment or therapy.

A lot of measures have been taken to resolve the breast cancer problem in Zambia. Screening methods have been introduced and are being undertaken at the Cancer Diseases Hospital. Publicity about breast cancer in the media has been intensified to make sure that people become aware of the measures being taken to combat breast cancer.

Despite the programs put up to resolve the problem, the prevalence of breast cancer is increasing. It is for this reason that the investigator would like to establish that knowledge of breast cancer, risk factors, symptoms and the screening methods among first degree female relatives of breast cancer patients.

1.3. FACTORS INFLUENCING KNOWLEDGE OF BREAST CANCER, RISK FACTORS, SYMPTOMS AND SCREENING METHODS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

There are various factors that may influence knowledge of breast cancer risk factors, symptoms and screening methods. These can be subdivided into socio-cultural factors and service related factors.

1.3.1. SOCIAL-CULTURAL FACTORS

These are further split into: Level of education, cultural beliefs, age, religious beliefs, social-economic status and lack of access to the media.

1.3.1.1 LEVEL OF EDUCATION

Level of education can influence the knowledge of breast cancer risk factors, symptoms and screening methods among women. It is assumed that knowledge is high among women with tertiary education and low among those with primary education and little or no knowledge at all among those women who are illiterate. This is attributed to the fact that women with
tertiary education are able to read on breast cancer risk factors, symptoms and the importance of screening methods from papers or the internet and are able to comprehend this information. This in turn makes them take the screening methods seriously. Those with primary education may find it difficult to read, interpret and comprehend information that they can come across concerning breast cancer and the importance of screening methods.

1.3.1.2 CULTURAL BELIEFS

Factors like less access to health services, finances, including lack of insurance and lack of adequate information due to the literacy level of different subgroups of the population play a very important role in influencing the knowledge on breast cancer risk factors, symptoms and screening methods. In this group of lower economic status cultural perceptions and belief about the disease play a very important role as they associate disease with cultural beliefs and cultural assumptions which make them feel that health services are not important. For example; in some cultures it is believed that Breast cancer is only caused by witchcraft. Most of the people in this group have little or no education and so are not able to read literature which can help them change their mentality about their culture and beliefs. Other cultures believe that it is a curse while others believe that it can never be cured or treated. Given the above situations, people may not be interested in knowing the risk factors, symptoms and screening methods for breast cancer.

1.3.1.3 AGE

Risk increases with age. Age is the biggest risk factor. In other words, all women have some risk. Hence the need to promote awareness and take steps for prevention. More than half of women who develop breast cancer had no other risk factors apart from being in an older age. Other factors to do with age include: Women who started their menstrual periods before age 12, those who have late menopause (after age 55), and those who had their first pregnancy after age 30, or who have never had children have a mildly increased risk of developing breast cancer. Early onset of menses, late arrival of menopause, and late or no pregnancies are all factors that increase a woman's lifetime level of estrogen exposure.
1.3.1.4 RELIGIOUS BELIEFS

Some religions don’t believe in modern science and anything that comes with it. Others don’t even believe that the only way a disease can be cured is through prayers. Thus, it is utterly difficulty for people with such religious beliefs to be interested in knowing about Breast cancer.

1.3.1.5 SOCIO-ECONOMIC STATUS

Socio-economic status can influence the knowledge of breast cancer, risk factors, symptoms and screening methods in that those who are well to do have all the opportunities and have the money to pay for their health services while those of the lower class are already affected by poverty and are unable to access the health services because they have no money to pay for the health services. Messages about breast cancer are usually broadcasted through radio and Television. Therefore only the rich are able to afford such items. The low class people do not participate in prevention and early detection programs offered at health facilities due to lack knowledge. They are not able to access the health services because they have no money to pay for such services. This group does not have access to information on the media as well because they cannot afford to buy radios or television sets.

1.3.1.6 LACK OF ACCESS TO THE MEDIA

Those who spend less than a dollar per day and those who spend between two and three dollars per day are unable to access information on the media as they cannot afford television sets and radios.

1.3.2 SERVICE RELATED FACTORS

These are categorized as: Adequacy in information, Education and Communication (IEC) and Communication skills by Health Personnel.

1.3.2.1 ADEQUACY OF INFORMATION, EDUCATION AND COMMUNICATION (IEC)

The IEC given to women by health care providers may influence their knowledge on breast cancer risk factors, symptoms and screening methods. At times inadequate IEC may be
given; this may be attributed to the health personnel having inadequate knowledge on screening methods e.g. conducting Breast Self Examination or due to poor attitude of health personnel in regard to IEC. At times IEC may not be given to women because nurses and doctors are overloaded with work and thus fail to find time to give IEC on breast cancer risk factors, symptoms and screening methods available. Inadequate IEC can also be as a result of women not accessing the health facilities, which can be due to long distances that they need to cover for them to reach the health facility. If women have limited information on breast cancer risk factors, symptoms and screening methods, they will not make use of the available screening programs. Consequently, they risk developing Breast Cancer which is detected in its late stage.

1.3.2.2 COMMUNICATION SKILLS BY HEALTH PERSONNEL

The most affected are those having less access to health services. These people would benefit greatly if during the rare occasions that they visit the health facility they can be given some tips on Breast cancer. For example, if the Health personnel can talk to women attending antenatal clinics about the breast cancer risk factors, symptoms and screening methods, those women would end up with measures aimed at early detection of the carcinoma. Thus, communication skills by the health personnel have also got a big role to play towards reducing the prevalence of Breast Cancer.
FIGURE 1: DIAGRAM OF FACTORS INFLUENCING THE KNOWLEDGE OF BREAST CANCER, RISK FACTORS, SYMPTOMS AND SCREENING METHODS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

Service Related factors

- Inadequate IEC
- Communication skills by health personnel

Socio-Cultural

- Level of education
- Cultural beliefs
- Religious
- Socio-economic status

Lack of access to the media

Knowledge of breast cancer, risk factors, symptoms and screening methods for breast cancer among the first degree relatives of breast cancer patients.
1.5 JUSTIFICATION

According to records from Cancer Disease Hospital, the number of women coming to the hospital in their last stage of breast cancer is increasing. In 2007, about 2.93% of women were attended to with advanced breast cancer. In 2008 the number was 17.02% and in 2009 the number was 6.58% (UTH and Cancer Disease Hospital, Registry). If people know the risk factors, they will go for screening, resulting in early diagnosis and treatment. The purpose of this study is therefore to determine knowledge of breast cancer, risk factors, symptoms, and screening methods among the first degree female relatives of the breast cancer patients. The findings of this study will benefit the policy makers to come up with a policy on IEC to increase the knowledge of women on breast cancer. The health workers will also benefit as they will be able to give information, education and communication (IEC) to the women and this will reduce the number of deaths due to breast cancer as most women will be aware of risks and seek treatment early. Lastly, the study will provide information to the women who could benefit from the knowledge of breast cancer and early detection of breast cancer in order to seek health services on time.

1.6. RESEARCH OBJECTIVES

1.6.1. GENERAL OBJECTIVE

To determine the knowledge of breast cancer, risk factors, symptoms and screening methods among first degree female relatives of breast cancer patients.

1.6.2 SPECIFIC OBJECTIVES:

- To determine knowledge of risk factors for breast cancer among first degree female relatives of breast cancer patients
- To explore the level of knowledge for symptoms of breast cancer among first degree female relatives of breast cancer patients
- To assess the level of knowledge on Breast Cancer screening strategies among the first degree female relatives of first cancer patients
1.7. HYPOTHESIS

There is no association between knowledge of breast cancer, risk factors, symptoms and screening methods among the first degree female relatives of breast cancer patients and the following factors:

- Knowledge of Breast Cancer
- Breast Cancer risk factors
- Breast Cancer symptoms
- Breast Cancer screening methods
- Information, education, communication (IEC) given by health workers.

1.8 CONCEPTUAL DEFINITIONS OF TERMS

A conceptual definition is the definition of a concept by a set of other concepts. It conveys the general meaning of the concept and uses words to define the properties of something (Brink 1996).

Knowledge - all that is known, an organized body of information about Breast Cancer (Hawkins 1988).

Breast cancer - (malignant breast neoplasm) is a cancer originating from the breast tissue, most commonly from the lining of milk ducts or lobules that supply the ducts with milk (Mandon et al, 2004).

Risk factors - Anything that may increase the chance of developing breast cancer is a risk factor (Mandon et al, 2004).

Screening methods - these are the approaches used to examine for the presence of breast cancer (Microsoft Corporation, 2009).
<table>
<thead>
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<th>Variable</th>
<th>Indicator</th>
<th>Cut Off Points</th>
<th>Question Numbers</th>
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| **Dependent variable**  
1. Total Knowledge on Breast Cancer (risk factors, symptoms and screening methods) | -Score 75% and above on knowledge questions  
- Score between 55% and 74% on knowledge questions  
- Score below 54% on knowledge questions | -Highly knowledgeable  
- Moderately knowledgeable  
- Low knowledge | 16 |
| Knowledge on risk factors | -Score 66% and above on risk factors questions  
- Score between 40% and 65% on risk factors questions  
- Score below 40% on risk factors questions | -Highly knowledgeable  
- Moderate knowledgeable  
- Low knowledge | 5 |
| Knowledge on symptoms | -Score 80% and above on symptoms questions  
- Score between 40% and 60% on symptoms questions  
- Score below 40% on symptoms questions | -Highly knowledgeable  
- Moderately knowledgeable  
- Low knowledge | 9 |
| Knowledge on screening methods | -Score above 50% on screening methods questions  
- Score below50% on screening | knowledgeable  
Not knowledgeable | 2 |
| **Independent Variables**  
2. Level of education | -Attaining of college or University education  
- Attaining secondary education  
- Attaining primary or no formal education | -High income  
- Average income  
- Low income |
| 3. Socio-economic Status (income levels) | - K800,000-K1,000,000 and above | - Adequate |
|                                          | - Between K500,000-799,000       |           |
|                                          | - Below K200,000                |           |

| 4. IEC | - A Score 50% and above on IEC questions |
|        | - Score below 50% on IEC questions       |           |
1.9. VARIABLES

A variable is a quality, property, or characteristics of persons, things or situations that change or vary in study (Burns and Grove, 2009).

1.9.1. DEPENDENT VARIABLES

A dependable variable is a variable that changes as the independent variable is manipulated by the researcher: sometimes known as criterion (Basavanthappa, 2007).

The dependent variables in the study are: knowledge of breast cancer, risk factors, symptoms and screening methods.

1.9.2. INDEPENDENT VARIABLE

This is the variable that is purposely manipulated or changed by the researcher (Basavanthappa, 2007).

The independent variables in this study are:

- Level of education
- Social-economic status (income levels)
- Information, Education and Communication (IEC
CHAPTER 2

2.0 REVIEW OF LITERATURE

2.1 INTRODUCTION

Review of literature is the key step in research process. Review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to the research project. A researcher analyzes existing knowledge before delving into a new area of study while conducting a study, when interpreting the results of the study and when making judgments about applications of a new knowledge in nursing practice (Basavanthappa, 2006).

The purpose of literature review is to determine what is already known about the topic under study and give a comprehensive picture of the state of knowledge of breast cancer, risk factors, symptoms and screening methods in the early detection of breast cancer. It will also give the researcher clues to methodology and select the right tools/instruments to use to collect data, and also assist the researcher refine certain parts of the study.

Literature review for this study focuses on what has been published in journals in line with books about knowledge of breast cancer, risk factors, symptoms and screening methods. However, there are some limitations because at regional and national level there are very few studies that have been done on knowledge regarding breast cancer, risk factors, and symptoms and screening methods.

2.2 KNOWLEDGE OF BREAST CANCER

The results of the study done by Sim et al, 2000 suggest that those with a lower educational level are less well informed. Similarly, those in the lower socio-economic group (reflected by lower income and smaller housing) had lower scores. Several Western studies have shown that low socio-economic class is associated with late-stage breast cancer at presentation and a higher mortality rate. However, similar data is lacking in an Asian population. This lack of knowledge may be because the current public education materials are too complex for their understanding and/or due to a lack of interest on their part. The authors suggest further studies to determine the reasons and ways to reach out to the
population at risk. Women who knew someone with breast cancer were more likely to have better knowledge. Having someone close (a friend or relative) with breast cancer could heighten one's awareness of the disease and result in an increased understanding of the condition.

According to the study done in Nigeria by Odusanya, and Tayo 2001, on Medical students, breast cancer is not well understood by women and there is a need for information and enlightenment if they are to present early in hospital. Among Nigerian women, some of the factors preventing early hospital presentation and thus increasing mortalities are thought to include inadequacy of systems protecting and promoting women's health and cultural taboos regarding the female body. Lack of knowledge about breast cancer has also been identified as an important factor preventing women from participating in breast cancer screening. It additionally adds to delay in presentation and treatment. Therefore it is important to understand the factors that influence patients' screening behaviors. These delays contribute to the high rates of mortality described above. An elucidation of these factors is a prerequisite for developing strategies to modify these behaviors which will lead to improvement in the morbidity and mortality rates associated with disease in this population.

One hundred percent of the students knew that breast cancer was the most common cancer in women and also knew it was not a disease of white women only. Few of the participants knew breast cancer was not caused by putting money between the brassier and breast. All the participants knew that the disease was not caused by breast feeding. Twelve students knew it was not caused by an injury to the breast. All the students knew the disease could not be contracted by eating or shaking hands with someone having the disease. Majority acknowledged that surgery was not the only cure for the disease.

Similarly, breast cancer is one of the leading causes of death among middle-aged women and is becoming a major public health problem. Breast cancer is the second most common cancer among women in Zambia (Mukupo and Mubita-Ngoma, 2005).

It was noted that urban women had higher levels of knowledge than rural women and the difference in knowledge could be attributed to urban women having easier access to information than women in rural areas. Women in both rural and urban areas did not
practice breast self examination and this could be attributed to lack of information about breast self examination as a screening tool. These findings show that there is a need for nurses to design an educational programme to sensitize women on the dangers of breast cancer and the importance of early diagnosis through the use of BSE (Mukupo and Mubita-Ngoma, 2005).

All these studies show that there is need for more research in areas related to breast cancer knowledge among women. There is need to design and develop public health programs to provide information and services for different age groups, educational levels and cultures to create awareness of breast cancer.

2.3 KNOWLEDGE OF BREAST CANCER RISK FACTORS

The most significant risk factors for breast cancer are gender and age. Breast cancer is 400 times more common in women who are 50 years old as compared to those who are 20 years old. Another important risk factor is having first-degree relatives (mother, sister, or daughter) with breast cancer.

The risk is especially higher if both the mother and sister have had breast cancers, if the cancers in first-degree relatives occurred early in life (before age 50), or if the cancers in these relatives were found in both breasts. Having a female relative with breast cancer and having both relatives with breast and ovarian cancers also increase a woman's risk of developing breast cancer. Families with multiple members with other cancers may have a genetic defect leading to a higher risk of breast cancer.

Breast cancer risks can be additive. For example, women who have first-degree relatives with breast cancer and who also have atypical hyperplasia of the breast tissue have a much higher risk of developing breast cancer than women without these risk factors.

Women who started their menstrual periods before age 12, those who have late menopause (after age 55), and those who had their first pregnancy after age 30, or who have never had children have a mildly increased risk of developing breast cancer (less than two times the normal risk). Early onset of menses, late arrival of menopause, and late or no pregnancies
are all factors that increase a woman's lifetime level of estrogen exposure (American Cancer Society, 1995).

Several Western studies have shown that cultural beliefs and attitudes influence the breast cancer stage at diagnosis. Although there has not been any similar study in an Asian population, it is likely that the misconceptions that surfaced from our survey could lead to a delay in seeking treatment. Poor knowledge in the elderly is not surprising as many public education materials are in English. Therefore, those who are illiterate or do not understand English would not be adequately informed. In addition, Asian women tend to be more conservative than their Western counterparts and issues concerning cancer and the female body is often taboo topics, especially among the elderly. Tan et al reported that, between 2000 and 2003, women in Singapore presented with stage III or IV breast cancer. These tended to be elderly and nulliparous women. However, their study did not look into the reasons for their late presentation (Sim et al, 2009).

According to the study done in Nigeria by Odunsanya and Tayo 2001 on medical student on risk factors, it was found that increasing age, familial history of childlessness, absence of breast feeding, taking birth control pill or hormone replacement therapy were well-known risk factors. However, a small percentage of the nurses believed that early menarche and late menopause were the risk factors of the breast cancer. Fourteen nurses believed that they had a higher risk in development of breast cancer.

The Study done by Mukupo and Mubita-Ngoma, 2005 in Lusaka and Solwezi revealed that 95% of the respondents in rural and 95% of respondents in the urban area did not practice breast self examination. The most common reasons given by women for not practicing breast self examination were lack of knowledge on how to do it (65% rural and 55% urban women), the perception was that it was not important to do BSE (30% of urban and 27.5% of rural women) and that they did not perceive themselves as being at risk of getting breast cancer (15% of urban and 8% of rural women).

These studies show that screening and early detection are important to every woman regardless of the presence of risk factors.
2.4 KNOWLEDGE OF BREAST CANCER SYMPTOMS

According to the study done in Nigeria by Odunsanya and Tayo 2001 on Medical students, the knowledge of breast cancer symptoms was fair. Only five students acknowledged that headache was not a symptom of breast cancer and five students indicated that abdominal pain was not a symptom. Seventeen students acknowledged that bloody nipple discharge is a symptom of breast cancer. Two students did not know that inverted nipples are a symptom of breast cancer. All the participants were correct in recognizing ulceration over the breast as a symptom of breast cancer.

The study shows that the students were quite knowledgeable about the risk factors and symptoms of breast-cancer development.

2.5 KNOWLEDGE OF BREAST CANCER SCREENING METHODS

The study conducted in Pamukkale University Hospital in Denizli in Turkey among nurses have shown that nurses who knew very well about symptoms, risk factors and screening methods of cancer were more likely to use breast cancer screening methods (Tessaro and Herman 2000; Odunsanya and Tayo 2001). In the literature, similar rates were found related to the level of knowledge on breast cancer risk factors (increasing age, nulliparity, family history of late childbearing) (Tessaro and Herman, 2000). Most of the nurses said that BSE was a beneficial method in identifying early breast changes and MMG was important screening method for diminishing mortality of breast cancer. This is higher than the rate of 77% obtained among university nursing students in one study, who correctly identified the recommended time (Budden 1995). However, this difference is small and it probably cannot have any statistically significant and clinically relevant difference.

In another study from Nigeria conducted by Odunsanya and Tayo 2001 on breast cancer knowledge: attitude and practice among nurses in Lagos, rates of using BSE and CBE were lower than the study results done in Turkey, although biannual MMG screening has been recommended for screening for women older than 50 years. When nurses were asked about BSE, nurses believed that it was necessary for determining lump at early diagnosis; some believed that it should be done monthly, and others believed that it should be done at lacteal phase of menstruation. Out of the number that participated in the study some nurses did not
perform BSE monthly. When asked the reasons they reported, lack of time, and some reported that they forgot performing BSE. Some said that they did not know how to do this while others thought that BSE was an unnecessary examination. Most nurses knew that CBE should be done by health profession and yearly. However, some of nurses had never done CBE; others reported lack of time, others reported that they forgot how to do it. others reported that CBE was embarrassing to them, while others thought that CSE was an unnecessary examination. All of the nurses said that MMG should be done yearly, and believed that MMG was a painful procedure and that it could detect cancer with or without mass. Although six nurses were at least 40 years old and older, only half of them had MMG performed. Furthermore, some believed that MMG decreases the mortality of breast cancer.

In Turkey, although biannual MMG screening has been recommended for screening for women older than 50 years (The Turkish Ministry of Health 2003, 2004), it could have not been applied widely so far. Several studies reported that MMG reduced mortality rate from breast cancer in women over 50 years of age and this was also supported for women older than 40 years (Wells 1998; Olsen and Gotzsche 2001; Anderson et al. 2003). (Yaren et al 2008)

The study in Singapore conducted by Sim et al, 2009 questioned the usefulness of BSE as a screening tool. Despite several studies on BSE showing no significant reduction in breast cancer mortality, women are still encouraged to practice it. The study showed that those who practiced BSE were more likely to go for screening mammograms. In the survey based on the 1994 Singapore Breast Screening Project, women who attended other screening programmes were also more likely to go for screening mammograms. The study suggests that knowledge affects practice. Consistent factors that influenced BSE and screening mammogram rates were educational level and having high knowledge. This is an improvement when compared to the response rate of 41.7% in the 1994 Singapore Breast Screening Project, where the women had been invited for free screening mammograms. Concurring with the study by Seow et al, these women were those with higher education qualifications.

Among the Malay respondents, although they were more likely to have low knowledge, they were more likely to practice BSE but less likely to go for screening mammography. Most of
the respondents cited public media (Television and poster) as their main sources of information; the authors suggest that specific myths and misconceptions identified in the study be the focus of future public education materials. To reach out to the elderly, it may be necessary for public education materials to be in languages other than English (even in local dialects). It has been shown that doctors have a strong influence on the uptake of mammogram attendance. However, the survey showed that only 14% obtained information from their family physician and 14% of those who have not gone for a mammogram cited failure of recommendation by their doctors as the reason. There is need for primary health care physicians to be encouraged to provide more opportunistic health education and screening.

Breast cancer is the most common cancer among women in Singapore. Despite the national screening programme, there remain many myths and misconceptions about breast cancer. This could have a negative impact on screening attendances, resulting in delayed diagnosis and treatment. Equipped with a better understanding of the common misconceptions and which groups of women are lacking in knowledge, more effective public education could be targeted to these groups.

The study done in Nigeria by Odunsanya and Tayo 2001 on medical students on knowledge about the methods of breast cancer detection (screening) and their screening practices, all the students recognized breast self-examination to be an examination they could perform themselves without requiring the assistance of a physician. However, four students did not know how often breast self-examination should be done.

Breast self-examination should be done regularly at least once a month and whenever the client visits the health facility, the doctors and nurses should do clinical breast examination during routine examination.
CONCLUSION

From the various articles and studies reviewed above, it can be concluded that knowledge can be affected by various factors. The main factors include lack of knowledge on breast cancer, risk factors, symptoms and screening methods among the first degree female relatives of breast cancer patients. Other factors noted include lack of education, low economic status and inadequate IEC and social cultural factors. Although these appear to be the main factors, some literatures have different views about them. Worldwide, a lot has been done to increase the awareness of breast cancer in an effort to reduce the incidence and hence the prevalence. However, much still needs to be done in order to increase the awareness. Therefore, this study will contribute significantly to the increase on awareness of breast cancer, risk factor, symptoms and screening methods.
CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

The research design is the plan, structure and strategy of answering the research question. It is the overall plan or blueprint the researchers select to carry out their study (Basavanthappa, 2007). It is also a blueprint for conducting the study and hence maximizes control over factors that could interfere with the validity of the findings. The research design guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

The design of the study is the end result of a series of decisions made by the researcher concerning how the study was be implemented. The design is closely associated with the framework of the study and guides planning for implementation of the study.

As a blueprint the design is not specific to a particular study; it is rather a broad pattern or guide that can be applied to many studies. So the design must be made specific to a study. Using the problem statement, framework, research questions, and clearly defined variables, the researcher can map out the design to achieve a detailed research plan for data collection and analysis (Burns and Grove, 2005).

This descriptive study assessed breast cancer knowledge, risk factors and screening methods among the first degree female relatives of breast cancer patients at Cancer Disease Hospital, Lusaka. The target population was in the age range of 30-50 years who accompanied their relatives to the hospital for chemotherapy and review. Participation in this study was voluntary. The variables measured on the questionnaire included demographic characteristics of the study respondents, knowledge of breast cancer, risk factors, symptoms and screening methods.

The study design enabled the researcher to systematically collect and present data in order and gave a clear picture of knowledge of breast cancer, risk factors, symptoms and screening methods among the first degree female relatives of breast cancer patients.
3.2 RESEARCH SETTING

Research setting is a more specific place where data collection occurs. It ranges from naturalistic settings (in the field) to formal laboratories (Polit and Beck, 2006). The study was be conducted at Cancer Disease Hospital which is situated within the University Teaching Hospital (UTH) premises in Lusaka. Being the only Cancer Diseases Hospital in the country, the site was the most suitable place for the researcher to capture the target population. Cancer patients from all over Zambia are referred to the Cancer Diseases Hospital for treatment. Therefore, it was an ideal place where the first degree female relatives of Cancer patients were found. In addition, it is one of the few places where breast cancer screening is being done. Consequently from this location, the desired sample size was captured. UTH is a teaching and referral hospital for the whole country.

3.3 STUDY POPULATION

Basavanthappa (2005) defines study population as “consisting of total group of people or objects meeting the designated set of criteria to the researcher”. The study population consisted of first degree female relatives of breast cancer patients.

3.4.1 TARGET POPULATION

Target population is the entire set of individuals or elements who meet the sampling criteria (Burns and Grove, 2005).

The target populations were the first degree female relatives of cancer patients aged between 30 years to 50 years.

3.4.2 ACCESSIBLE POPULATION

An accessible population is the portion of the target population to which the researcher has reasonable access. The accessible population might be elements within a state, city, hospital, or nursing unit. The sample is obtained from the accessible population and then more abstractly, to the target population (Burns and Grove, 2006).
In this study, the accessible population was those 30 to 50 years old first degree female relatives who accompanied or those who took care of their relatives at Cancer Disease Hospital (CDH).

3.4 SAMPLE SELECTION

A sample is a subset of a population, selected to participate in a study (Polit and Beck, 2006). Sample selection is the process of selecting a sub-set of a population in order to obtain information regarding phenomena in a way that represents the entire population (Basavanthappa, 2007). Sampling involves selecting a group of people, events, behaviors or other elements with which to conduct a study. In this study, non probability sampling was used to select a sample. The sampling method used was convenient sampling. The researcher selected the respondents who were available during the data collection process of the study. Convenient sampling is a method where the researcher selects those units of the population which appears convenient to the researcher or to the management of the organization (Basavanthappa, 2006).

3.4.1 CANCER DISEASE HOSPITAL SAMPLING

Cancer Disease Hospital in Lusaka was selected because of its high number of breast cancer patients who are being referred country wide as this is the only hospital that offers cancer treatment.

Inclusion criteria: defined as the criteria that specify the characteristics of the population under study (Burns and Grove, 2005). The inclusion criteria were on first degree female relatives of breast cancer patients between 30 and 50 years.

Exclusion criteria: The criteria that specifies characteristics that a population does not have (Polit and Beck, 2006). In this study, the sample excluded all women who were not first degree relatives of cancer patients. This was so because the researcher wanted to determine the knowledge of breast cancer on those who were first degree relatives of cancer patients and those who where between 30 – 50 years.
3.5 SAMPLE SIZE

According to Polit and Beck, 2006 “Sample size, is the total number of study participants participating in a study.” For this study the samples was 50 first degree female relatives of breast cancer patients between 30 years and 50 years and were interviewed in the area mentioned above. This sample size was arrived at by using the convenience sampling method. The sample size was selected on the basis of requirement for partial fulfillment of Bachelor of Science in Nursing. It was also based on the availability of time and resources to carry out the study.

3.6 OPERATIONAL DEFINITIONS

Operationalizing a variable or concept involves developing conceptual and operational definitions. A conceptual definition provides the theoretical meaning of a concept or variable (Fawcett, 1999) and is derived from a theorist’s definition of that concept or is developed through concept analysis (Burns and Grove, 2005).

Operational definitions translate the conceptual definition into behavior or verbalizations that can be measured for the study. For the purpose of this study the following terms mean:

1. **Knowledge** - is what a woman knows and understands about the breast cancer risk factors, screening methods and symptoms.

2. **Breasts Cancer** - is tumor of the breast.

3. **Risk Factors** - are any attributes that increase the chances of developing Breast Cancer.

4. **Symptoms** - An indication of the Breast cancer disease or other disorder experienced by the patient.

5. **Screening Methods** - Techniques to detect breast cancer.

6. **Information, Education and Communication** - collecting facts and data about a specific Breast cancer and then giving out the new ideas, facts and teaching women on the risk factor, symptoms and screening methods for breast cancer.
7. **Socio-Economic Status** - this relates to human society and how it is organized in relation to income.

### 3.7 DATA COLLECTION TOOLS

Data collection tools are instruments used to collect data needed to address research questions (Polit and Beck, 2008). In this study, data was collected using a structured interview schedule. An interview schedule is a complete list of questions on which information is elicited from the respondents (Basavanthappa 2007). The instrument contained both open and closed ended questions. The structured interview schedule was chosen because it was suitable for both illiterate and literate respondents. This tool was also selected because it captured as much information as possible from the respondents. It was also easy to administer and it allowed clarification of questions where the respondents were not clear and it was less costly. The questions were being written in English then translated into Nyanja and Bemba for those who could not understand English. The Schedule contains four sections:

- **Section A: Demographic**
- **Section B: knowledge of breast cancer**
- **Section C: socio-economic status**
- **Section D: Information Education and Communication (IEC)**

### 3.7.1 VALIDITY

Validity refers to whether an instrument measures what it is supposed to measure (Basavanthappa, 2005). Validity can either be internal or external. Other types include statistical conclusion and construct validity.

### 3.7.2 INTERNAL VALIDITY

Burns and Grove, (2009), define internal validity as the extent to which the effects detected in the study are a true reflection of reality rather than the result of extraneous variables. The researcher must examine the causality by determining whether the independent and...
dependent variables may have been caused by the third, often unmeasured variable. According to Burns and Grove (2009), internal validity will be held up by controlling the following threats:

- **Maturation** - Maturation is defined growing older, wiser, stronger, hungrier, more tired, or more experienced during the study. This was controlled by ensuring that data was collected in the morning or at the same time of the day for all subjects before the respondents got tired, hungrier as such unrecognized and unplanned changes would affect the study results.

### 3.7.3 EXTERNAL VALIDITY

Is concerned with the extent to which study findings can be generalized beyond the sample used in the study (Burns and Grove, 2005). Validity would be censured by covering all important variables under study in the questionnaire. Questions will be clearly constructed, simplified, concise and brief.

### 3.7.4 STATISTICAL CONCLUSION VALIDITY

The first step in inferring cause is to determine whether the independent and dependent variables are related. The determination of a relationship (covariation) is made through statistical analysis. Statistical conclusion validity is concerned with whether the conclusions about relationships or differences drawn from statistical analysis are an accurate reflection of the real world.

The second step is to identify differences between groups. However, there are reasons why false conclusions can be drawn about the presence or absence of a relationship or difference. The reasons for the false conclusions are called threats to statistical conclusion validity (Burns and Grove 2005).

### 3.7.5 CONSTRUCT VALIDITY

Construct validity examines the fit between the conceptual definitions and operational definitions of variables. Theoretical constructs or concepts are defined within the framework (conceptual definitions). The conceptual definition provides the basis for the development of
operational definitions of the variables. Operational definitions (methods of measurement) must validly reflect the theoretical constructs. Examination of construct validity determines whether the instrument actually measures the theoretical construct it purports to measure (Burns and Grove 2005). Knowledge is an example of a construct in the study. Construct validity will be ensured by the researcher developing the tool to measure the relationship between knowledge of breast cancer, risk factors, symptoms and screening methods among first degree female relatives of breast cancer patients at Cancer Disease Hospital.

3.7.6 RELIABILITY

Reliability of a measure denotes the consistency of measures obtained in the use of a particular instrument and in an indication of the extent of random error in the measurement method (Burns and Grove 2005). The instrument should be able to bring out the information whereby the same instrument after sometime, would yield the same response. In this study, the research supervisor will review the instrument before administering it. The questions will be aligned in sequence and simple, concise, brief and same questions will be asked to all the respondents for reliability to be ensured. This helps in eliminating biases and minimizes collection of unnecessary data.

3.7.9 STABILITY RELIABILITY

This is concerned with the consistency of repeated measures of the same attribute with the use of the same scale or instrument (Burns and Grove 2005).

3.7.10 EQUIVALENT RELIABILITY

The focus of equivalence is the comparison of two versions of the same paper and pencil instrument or of two observers measuring the same event (Burns and Grove 2005).

3.7.11 HOMOGENEITY RELIABILITY

Test of instrument homogeneity, used primarily with paper and pencil tests, address the coloration of various items within the instrument (Burns and Grove 2005).
3.8 DATA COLLECTION TECHNIQUE

Data collection is the precise, systematic gathering of information relevant to the research purpose or the specific objectives, questions; hypothesis of the study (Burns and Grove, 2005). This was the method the researcher used to collect relevant data from the study participants. Data collection technique allowed the researcher to systematically collect information about objects of the study (thus people, objects, and phenomena) and the setting in which they occur. An explanation of the purpose of the study was explained in simple terms which enabled the respondents to participate easily during the discussions. The participants were oriented to the data collection tools and were assured that confidentiality would be maintained. The investigator used structured interview schedule. Permission was sought from the relevant authorities and respondents before conducting the interviews. Respondents were made comfortable before the interview. This was achieved by greeting each respondent and making them sit on the chair. Each respondent was being assured of privacy, confidentiality and anonymity by using serial numbers on each interview schedule instead of names. The interviewer discussed general issues to make the respondents comfortable and at ease. Thereafter the purpose of the session was explained and the structured interview schedule administered. The interviewer filled in the responses on behalf of the interviewee as the responses were being given. It took 30 minutes to interview each study participant. The interviewer followed the sequence of the questions in order to avoid introducing any bias in the study. In case of clarification, the interviewer repeated the questions. At the end of the interview, the interviewer thanked the respondents. The answered interview schedule was put aside. At the end of the session, all the answered and unanswered interview schedules were kept in locked cupboard.

3.9 PILOT STUDY

A pilot study is a small scale version, or trial run, done in preparation for a major study (Polit and Beck, 2006). The pilot study was carried out at University Teaching Hospital in Lusaka, which had the characteristics that had been selected for actual study. It comprised of 10% of the actual sample. A total of 5 respondents were selected for the pilot study. The major reason for conducting a pilot study was to get a general overview of the likely responses to the actual study. It assisted testing feasibility, reliability and validity of the
instrument (the interview schedule). This enabled the researcher to make necessary adjustments to the tool in the main study.

3.10 CULTURAL AND ETHICAL CONSIDERATIONS

Ethical considerations involve an understanding of the ethical codes and guidelines for protecting the rights of the research subjects (Basavantappa, 2007). The researcher obtained a written consent from the study participants after giving them sufficient information about the study so to make them decide whether or not to participate in the study, since participants had the right to self determination. The participants also had the right to withdraw from the study at any time and without penalty. The participants were protected from physical, emotional, spiritual, economical social harm and discomfort by explaining the benefits and risks of participating in the study. The participants also had the right to justice which was upheld by maintaining confidentiality of not writing names on the interview schedule; instead serial numbers were used. The researcher had permission from the Head of Department - Nursing Sciences (Medical Superintendent University Teaching Hospital for pilot study), Executive Director - Cancer Diseases Hospital, the Nursing Officer - Cancer Diseases Hospital to facilitate cooperation from the authorities and respondents for smooth data collection.

3.11.1 RIGHT TO SELF-DETERMINATION

This is the right to decide to take part in the study or not. None of the respondents was forced to be part of the study and a written informed consent was being obtained. The respondents had the freedom of choice.

3.11.2 BENEFICENCE

This means doing good and avoiding harm to the participants. It involves protecting the subjects from discomfort and physical, emotional, spiritual, economical, and social harm. This was upheld by ensuring that respondents answered the structured interviews in their time. There was no abusive or offensive language used and this prevented emotional harm. The investigator ensured no harm was done on the participants.
3.11.3 JUSTICE

It is the right to faire selection, treatment and privacy. After giving the respondents enough information about the study, they will be given an opportunity to make decision whether to take part in the study or not. The values, beliefs, and choices of the respondents are respected. They have the right to choose to either participate in the study or not to or to withdraw at any time they feel like without any charges. Only those respondents who were randomly selected and agreed to participate in the study were interviewed.

The principal of fidelity and veracity was upheld by ensuring that the promise made such as confidentiality and the use of the results were upheld. The respondent’s names were not written on the questionnaires; instead serial numbers were used to uphold the principle of anonymity. Therefore before conducting this study a written permission from the school Department of Nursing Sciences was obtained. This was important because it facilitated cooperation from authorities and respondents for smooth data collection.
CHAPTER 4

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 DATA ANALYSIS

Data analysis is the systematic organization, synthesis of research data and the testing of research hypothesis using those data, (Basavanthappa 2009).

Analysis of data in this study was done concurrently with data collection. Each completed interview schedule was checked for accuracy, completeness, uniformity and consistency at the end of each interview. Data was entered and analyzed using Statistical Package for Social Sciences (SPSS) version 17.0 software for Windows. Since the study obtained both quantitative and qualitative data, each one of these data were analyzed according to the guiding principles

4.1.1 QUANTITATIVE DATA

In this study, only demographic data was quantitative in nature and it comprised the following variables: age of respondents, the relationship with the patient and the level of education. The data was carefully checked for completeness. Each of the variables was broken down into sub-categories and results displayed in numerical values and percentages according to the responses. The data was then displayed in a frequency table.

4.1.2 QUALITATIVE DATA

According to Polit and Beck, (2005), qualitative data is information collected in the course of the study that is narrative or non narrative form. Qualitative data were from the structured interview schedule. Qualitative data were analyzed using content analysis. Content analysis is the qualitative analysis technique used to classify words in a text into a few categories chosen because of their theoretical importance (Burns and Grove, 2005).

All data were read and written down into categories which were entered using Statistical Package for Social Sciences (SPSS) version 17.0 software for Windows.
4.2 PRESENTATION OF FINDINGS

The findings of the study have been presented in 22 frequency tables in order to summarize the occurrences of events under study. The tables were used to present the data because they are an easy and effective way to interpret the results of the study. Cross tabulations have been used to show clearly the relationship between the variables and enable the researcher draw the important inferences (Wood and Haber, 2006).

4.2.1 SECTION A: DEMOGRAPHIC DATA

Descriptive statistics was used to examine the characteristics of age, education level and occupation, socio-economic status. Demographic data is presented into one table.
Table 4.1: Socio-Demographic characteristic of the sample (n=50)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td><strong>Relationship to patient</strong></td>
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<td></td>
</tr>
<tr>
<td>Sister</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>Mother</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Daughter</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
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</tr>
<tr>
<td>46-50</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
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</tr>
<tr>
<td>Never been to school</td>
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<td>6</td>
</tr>
<tr>
<td>Primary</td>
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<td>20</td>
</tr>
<tr>
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</tr>
<tr>
<td>Tertiary</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Unemployed</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Self employed</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Peasant farmer</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table continues on next page
Table 4.1 socio-Demographic characteristics of the sample (n=50)

<table>
<thead>
<tr>
<th>Monthly income</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>800,000- 1,000,000 and above</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>500,000- 799,000</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>200,000- 499,000</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Below 200,000</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>no income</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Almost two thirds, 32 (64%) of the respondents were sisters to the patients, almost one third, 17 (34%) were aged 30-35 years old. More than half, 29 (58%) had secondary education. The unemployed were more than one third, 19 (38%) and almost one third, 17 (34%) had an income below K200, 000.

4.2.2 SECTION B: GENERAL KNOWLEDGE OF BREAST CANCER

This section represents findings on knowledge on breast cancer in general. Below are tables presenting the data and the summary of responses for each of the questions.

Table: 4.2 Respondents response if ever heard of breast cancer (n=50)

<table>
<thead>
<tr>
<th>Heard of breast cancer</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>No response</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

32 (64%) of the respondents reported having heard about breast cancer.
Majority, 35 (70%) of the respondents reported having heard of breast cancer from Health care Providers.

32 (64%) of the respondents stated that breast cancer is the most common cancer among women.
Table 4.5 Responses on breast cancer whether it occurs more in older women above 60 years (n= 50)

<table>
<thead>
<tr>
<th>Breast cancer occur more in older women above 60 years</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>I don't know</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

22 (44%) of the respondents did not know that breast cancer occurs more commonly in old women above 60 years.

Table: 4. 6 Responses on breast cancer whether it can be inherited (n=50)

<table>
<thead>
<tr>
<th>Breast cancer can be inherited</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>I don't know</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

24 (48%) of the respondents stated that breast cancer can be inherited.
Table: 4.7 Responses on the causes of breast cancer (n=50)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>I don't know</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

32 (64%) of the respondents know that breast cancer is not caused by evil spirits.

Table: 4.8 Responses on whether early diagnosis of breast cancer can improve the outcome of treatment (n=50)

<table>
<thead>
<tr>
<th>Early diagnosis of breast cancer improve the outcome of treatment</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>36</td>
<td>72</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>I do not know</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

The majority, 36 (72%) of the respondents stated that early diagnosis of breast cancer can improve the outcome of treatment.
Table: 4.9 Responses on usefulness of breast cancer examination in early diagnosis (n=50)

<table>
<thead>
<tr>
<th>Usefulness of breast cancer examination in early diagnosis</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>I don't Know</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

27 (54%) of the respondents stated that breast examination was useful in early diagnosis.

Table: 4.10 Responses on whether breast cancer is curable when detected early (n=50)

<table>
<thead>
<tr>
<th>Breast cancer is curable when detected early</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>I don't know</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Majority, 37 (72%) of the respondents acknowledged that breast cancer can be cured if detected early.
4.3.3. KNOWLEDGE ON SYMPTOMS

This section represents findings on knowledge on symptoms. Below are tables presenting the data and the summary of responses for each of the questions.

Table: 4.11 Responses on the awareness of symptoms of breast cancer (n=50)

<table>
<thead>
<tr>
<th>Awareness of the symptoms (Lump on the breast, lump on the armpit, pain in the nipple, nipple discharge......)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scored 0</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>scored 1</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Scored 2</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>scored 3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>scored 4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>scored 5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>scored 6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Scored 7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>scored 9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

24 (48%) of the respondents were not aware of the symptoms of breast cancer that were listed.
4.3.4 KNOWLEDGE ON RISK FACTORS

This section represents findings on knowledge on risk factors. Below are tables presenting the data and the summary of responses for each of the questions.

Table: 4.12 Awareness of the risk factors for breast cancer (n=50)

<table>
<thead>
<tr>
<th>Risk factors (increasing age, childlessness, early menarche, late menopause, Familial history of breast cancer.....)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scored 0</td>
<td>33</td>
<td>66</td>
</tr>
<tr>
<td>scored 1</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>scored 2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>scored 3</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>scored 4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>scored 5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Two thirds, 33 (66%) of the respondents were not aware of the risk factors for breast cancer.

Table: 4.13 Responses on awareness of being at high risk for breast cancer (n=50)

<table>
<thead>
<tr>
<th>Awareness of being at high risk for breast cancer</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>No</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

27 (54%) of the respondents stated that they were not aware of being at high risk for breast cancer.
4.3.5. KNOWLEDGE ON SCREENING METHODS

This section represents findings on knowledge on screening methods. Below are tables presenting the data and the summary of responses for each of the questions.

Table: 4.14 Responses on the usefulness of breast self examination (n=50)

<table>
<thead>
<tr>
<th>Usefulness of breast self examination</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

32 (64%) of the respondents stated that breast self examination was not useful.

Table: 4.15: Responses of how often respondents conducted breast self examination (n=50)

<table>
<thead>
<tr>
<th>Number of times breast self examination is conducted</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>once a month</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>twice in a month</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Three to five times a year</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>never</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

38 (76%) of respondents did not conduct breast self examination.
Table: 4.16 Sources of information on breast self examination (n=50)

<table>
<thead>
<tr>
<th>Sources of information on breast self examination</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health professionals</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Publications</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Television/Radio</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

31 (62%) of the respondents never got any information on breast self examination.

Table: 4.17: Responses on respondents being given Information, Education and Communication on breast cancer risk factors, symptoms and screening methods (n=50)

<table>
<thead>
<tr>
<th>Information, Education and Communication on breast cancer risks factors, symptoms and screening method</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>No</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

39 (78%) of the respondents never had any IEC given to them.
Table: 4.18 Level of knowledge on breast cancer risk factors, symptoms and screening methods

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 5-8</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Medium 9-12</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>High 13-16</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

39 (78%) of the respondents had medium knowledge on breast cancer risk factors, symptoms and screening methods.

4.3.5. RELATIONSHIP BETWEEN VARIABLES

Table: 4.19: Knowledge in relation to Education (n= 50)

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>never been to school</th>
<th>primary</th>
<th>secondary</th>
<th>tertiary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 5-8</td>
<td>0(0%)</td>
<td>1(10%)</td>
<td>4(14%)</td>
<td>0(0%)</td>
<td>5(10%)</td>
</tr>
<tr>
<td>Medium 9-12</td>
<td>3(100%)</td>
<td>9(90%)</td>
<td>21(72%)</td>
<td>6(75%)</td>
<td>39(78%)</td>
</tr>
<tr>
<td>High 13-16</td>
<td>0(0%)</td>
<td>0(0%)</td>
<td>4(14%)</td>
<td>2(25%)</td>
<td>6(12%)</td>
</tr>
<tr>
<td>Total</td>
<td>3(100%)</td>
<td>10(100%)</td>
<td>29(100%)</td>
<td>8(100%)</td>
<td>50(100%)</td>
</tr>
</tbody>
</table>

(25%) of the respondents with tertiary education had high knowledge.
Table: 4.20 Knowledge in relation to income (n=50)

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>Income</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>800,000-1000,000</td>
<td>500,000-799,000</td>
<td>200,000-499,000</td>
<td>Below 200,000</td>
<td>No income</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1 (7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2 (12%)</td>
<td>2 (15%)</td>
<td>5 (10%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>10 (72%)</td>
<td>1 (100%)</td>
<td>4 (80%)</td>
<td>14 (82%)</td>
<td>10 (77%)</td>
<td>39 (78%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>3 (21%)</td>
<td>0 (0%)</td>
<td>1 (20%)</td>
<td>1 (6%)</td>
<td>1 (8%)</td>
<td>6 (12%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14 (100%)</td>
<td>1 (100%)</td>
<td>5 (100%)</td>
<td>17 (100%)</td>
<td>13 (100%)</td>
<td>50 (100%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3 (21%) of the respondents with income from K800,000 and above had high knowledge.

Table: 4.21 Knowledge in relation to IEC on breast cancer (n=50)

| Level of knowledge | Information, education and communication on breast cancer, risk factors, symptoms and screening methods |                |                |                |                |                |                |                |
|                   | Yes                                         | No             |                |                |                |                |                |                |
| Low               | 3 (27%)                                     | 2 (5%)         |                |                |                | 5 (10%)        |                |                |
| Medium            | 5 (46%)                                     | 34 (87%)       |                |                |                | 39 (78%)       |                |                |
| High              | 3 (27%)                                     | 3 (8%)         |                |                |                | 6 (12%)        |                |                |
| Total             | 11 (100%)                                   | 39 (100%)      |                |                |                | 50 (100%)      |                |                |

3 (27%) of the respondents who received IEC on breast cancer had high knowledge.
Table 4.3.6 Descriptive Statistics of study variable (n=50)

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 5-8</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Medium 9-12</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>High 13-16</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of knowledge</td>
<td>50</td>
<td>1.00</td>
<td>16.00</td>
<td>7.0800</td>
<td>3.40372</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Knowledge levels ranged from 1-16, Mean = 7.080, Standard deviation 3.407
CHAPTER 5

5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR HEALTH SYSTEMS

5.1 CHARACTERISTIC OF THE SAMPLE

The discussion of findings is based on data obtained from fifty (50) first degree female relatives of breast cancer patients aged between 30 and 50 years. Data were obtained in November 2010. A non probability (convenience) sampling method was used to obtain the required sample size. This non-experimental study assessed knowledge of breast cancer, risk factors, symptoms and screening methods among the first degree female relatives of the breast cancer patients residing from different parts of Zambia. The demographic variables measured included relationship with breast cancer patients, age, educational level, occupation and monthly income. The findings showed that almost two thirds, 32(64%) of the respondents were sisters to the breast cancer patients (Table 4.1). These findings reveal that most of the patients are nursed by their sisters because they are free with their sisters than their daughters or mothers.

Almost one third, 17 (34%) were aged 30-35 years old (Table 4.1). This age group could be attributed to the fact that it is a productive age and very energetic, therefore there are strong enough and able to face the challenges of taking care of the sick.

The findings revealed that more than half 29(58%) of the respondents attained secondary education (Table 4.1). This result is attributed to the differences in location and the economic status. In this study respondents were coming from all over the country some might have been in areas where secondary schools and mostly within walking distance or if far, can manage to pay for transport. This is in line with the results of educational survey conducted in 2002 by Central Statistical Office (CSO, 2002) showing secondary school attendances ratios. The factors affecting children’s attendance were monetary cost of schooling, followed by the distance to the nearest school. There are substantial differences, though, by urban-rural residence, province, and wealth. For instance, 9 percent of youth age 14-17 in Luapula Province attend secondary school, compared with 37 percent in Copperbelt Province. Differences by wealth are even more dramatic than those at the primary level, with just 6
percent of youth in the poorest households attending secondary school, and 51 percent of youth in the wealthiest households attending secondary school (SCO, 2002).

The number of those attaining tertiary education is still low. In this study only 8(16%) of the respondents had tertiary education. This could still be attributed to the cost of living being high and lack of employment, parents cannot manage to pay for tertiary education. This result is similar to the findings of Central Statistical Office (CSO, 2002) where Attendance at the secondary level or higher shows a similar pattern, with 36 percent of male and 27 percent of female respondents having attended school at the secondary or post-secondary levels. In this study 3(6%) of the respondents had never been to school. These studies results are in line with the CSO (2002) were there are also sizeable urban-rural and provincial differences in educational attainment among parent/guardians. While 5 percent of parent/guardians in urban areas have never attended school, 19 percent of parent/guardians in rural areas have never attended school. Parent/guardians in Copperbelt Province are most likely to have had some schooling, with only 5 percent of parent/guardians never having attended school. In contrast, 29 percent of parent/guardians in Western Province have never attended school. This is still worrying because low literacy levels have problems in assimilating information regarding health care issues.

The self-employed were more than one third, 19 (38%) (Table 4.1) These results imply that most respondents were engaged in one form of employment or another. This is supported by what is obtaining in our Zambian economy today that the informal sector is fast growing due to the effects of Structural Adjustment Programme (CSO, 2007). This could also be accredited to the effects of privatization and Structural Adjustment Programme, which left most Zambians unemployed or peasant farmers (Mwiinga, 2002). Up to now Zambia’s economy has not yet recovered from the effects of Privatization and Structural Adjustment Programme. After 1991, when many firms and industries closed and other downsizing contributed to rising poverty, as many household had lost their jobs especially in urban areas.

Further the study revealed that almost one third, 17 (34%) of respondents had an income below K 200,000 per month (Table 4.1). This is attributed to the fact that there is lack of
employment as most of the respondents were not in formal employment. The reduction in formal employment has been accompanied by a decline in wage index. Poverty levels are as high as 64 percent (7.5 million) people. Today Zambia is ranked number 70 out of 84 countries on the 2010 Global hunger index, Jesuit Center for Theological Reflection (JCTR 2010).

5.2 KNOWLEDGE OF BREAST CANCER AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

Knowledge of Breast Cancer is information that is required in a variety of ways, i.e. an accurate reflection of reality and is incorporated and used to direct a person’s actions (Burns and Grove, 2007). The respondents were asked nine (9) questions to test their general knowledge of breast cancer. Below are the percentages of correct responses to the general breast cancer knowledge questions.

Almost two third, 35 (70%) of the respondents reported having heard about breast cancer (Table 4.2). The study reveals that the respondents had heard about breast, this could be attributed to the fact that some respondents have access to the media and are able to get the information on the radio or Television. Some respondents have access to the health facilities where they got information from health care providers and also from their relatives who have breast cancer. The findings are similar to the findings of Sim et al 2009 on Breast Cancer Knowledge and Screening Practices: a survey of 1,000 Asian women where the majority of the respondents (66%) received breast cancer information from the Television. Posters were the next commonest source of information (50%). Other sources included family members (34%), their family physician (14%) and formal teaching (11%).

Almost two thirds, 32 (64%) of the respondents stated that breast cancer is the second common cancer among women (Table 4.4). This could be attributed to the fact that those who accompany their relatives have seen a lot of women with breast cancer at the Cancer Disease Hospital and also they have seen that those who have breast cancer in the families are women. The study findings are similar to the study conducted by Akpo (2010) on Breast Cancer Knowledge and Screening Practices among Nigerian Medical Students where one
hundred percent of the students knew that breast cancer was the most common cancer in women worldwide.

Almost half, 22(44%) of the respondents did not know that breast cancer occurs commonly in older women above 60 years (Table 4.5). The study reveals that the majority of the respondents were not aware that breast cancer occurs commonly in older women above 60 years. This could also be due to the fact that most of their relatives who had breast cancer were in the range of 40 and 50 years. The incidence of breast cancer increases with age and doubles every 10 years until the menopause when the rate of increase slows. Breast cancer is predominantly a disease of older women and mostly occur in older women (McPherson et al, 2000), with approximately one third of all breast cancers occurring in women over the age of 70).

Almost half, 22(48%) of the respondents stated that breast cancer can be inherited (Table 4.6). This could be accredited to the fact that these respondents had either a mother or a sister who had breast cancer in the family thus they were aware that breast cancer can be inherited. There are indications that women with a family history of breast cancer, especially a first-degree relative, have about 30% increased risk of developing the disease and the risk increases if more than one first-degree relative has the disease.(American Cancer Society, 2009).

Almost two thirds, 32(64%) of the respondents stated that breast cancer is not caused by evil spirits (Table 4.7). This study shows that the respondents were aware that breast cancer is not caused by the evil spirit. This could be due to the fact that the respondents were given information on the causes of breast cancer. This finding is in line with the study conducted by Akpo, 2010, on Breast Cancer Knowledge and Screening Practices among Nigerian Medical Students where few of the participants (44.4%) knew breast cancer was not caused by putting money between the brassier and breast. All the participants (100.0%) knew that the disease was not caused by breast feeding. Twelve students (80.0%) knew it was not caused by an injury to the breast. All the students (100.0%) knew the disease could not be contracted by eating or shaking hands with someone having the disease.
The majority 36(72%) of the respondents stated that early diagnosis of breast cancer can improve the outcome of treatment (Table 4.8). These results reveal that majority of respondents were aware that early diagnosis improves the outcome of treatment. This could be attributed to the fact that most respondents saw the outcome of early diagnosis from their relatives and also from the information they got either from the media or from health care providers. This is in line with the study conducted by Odusanya and Tayo (2001) on Breast Cancer Knowledge, Attitude and Practice among Nurses in Lagos, Nigeria. Breast Cancer if discovered early can be cured; however, early detection through screening is the only way to reduce mortality. The study conducted by Karimian at el 2009 on Assessment of Knowledge, Attitude and Behavior of Women in Qom toward Breast Cancer Screening Methods. The results showed that knowledge contributed to better treatment of breast cancer if it is discover in early stage.

Almost half, 27(54%) of the respondents stated that breast self examination was useful in early diagnosis (Table 4.9). The study revealed that respondents were aware that breast self examination is useful. This could be credited to the fact they saw the outcome of conducting self breast examination from their relatives proved useful as they were able to be treated early. This will encourage women to conduct breast self examination monthly and will help detect the symptoms early and early presentation to the hospital. This is line with the study conducted by Akpo, 2010, on Breast Cancer Knowledge and Screening Practices among Nigerian Medical Students where all the 18 study participants identified clinical breast examination, breast self-examination and mammography as methods for breast cancer detection or screening.

The Majority, 37(42%) of the respondents acknowledged that breast cancer can be cured if detected early. (Table 4.10). The study shows that the respondents were aware that breast cancer is curable if detected early. This could be attributed to the fact that they were able to see for themselves from the relatives' outcome. This knowledge helps to detect the symptoms and prevent late presentation at the hospital. These results contradict the results of a study conducted by Odusanya and Tayo, (2001) on Breast Cancer Knowledge, Attitude and Practice among Nurses in Lagos, Nigeria, where 50% did not know that cancer was curable when detected early.
5.3 KNOWLEDGE OF RISK FACTORS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

Two thirds, 33(66%) of the respondents were not aware of the risk factors for breast cancer (Table: 4.12). This could be credited to the fact that even if they heard about the breast cancer they were not given information on risk factors. This finding contradicts findings of a similar study conducted by Odusanya (2001) on Breast Cancer: Knowledge, Attitude and Practice of Female School Teachers in Lagos, Nigeria where only 27% of the participants were able to identify three risk factors correctly.

More than half, 27(54%) of the respondents stated that they were not aware of being at high risk for breast cancer (Table 4.13). This could be attributed to the fact that even though they got information on breast cancer but they were not given information on risk factor like age, menopause, menarche, and having the first child after the age of 30 years. This is line with the study conducted by Akpo (2010) on Breast Cancer Knowledge and Screening Practices among Nigerian Medical Students where 38.9% and 44.4% respectively of the participants were not aware that early menarche and late menopause would increase their risk. Up to 22.2% and 11.1% of the participants were not aware that having many children and having the first child before the age of 30 years respectively lower the risk of getting the disease. These results reveal that there is need to intensify breast cancer campaigns in order to create awareness on breast cancer risk factors.

Almost two thirds, 32(64%) of the respondents stated that breast self examination was not useful (Table 4.14). These results could be credited to the fact some respondents were not given enough information on breast self examination despite getting other information on breast cancer from health care providers. This attitude could probably be as a result of lack of awareness. This is in line with the study conducted by Mukupo and Mubita-Ngoma, (2005) on Brest self examination in Lusaka and Solwezi which revealed that 65% of the rural women and 55% of the urban women perceived that it was not important to do BSE and that they were not at risk of getting breast cancer. The study results shows that there is need to intensify campaigns on breast self examination in order to create awareness.
5.4 KNOWLEDGE OF BREAST CANCER SYMPTOMS
Almost half, 24(48%) of the respondents were not aware of the symptoms of breast cancer that were listed, only 3(6%) of the respondents were able to identify all the risk factors listed (Table: 4.11). These findings show that women lack information on breast cancer symptoms. These findings contradict the findings of some previous studies conducted by Lavelle and Chalton, 1998 on Women’s perception of risk of cancer in the United Kingdom where the participants were able to correctly identify four symptoms out of the five statements describing symptoms of breast cancer.

5.5 KNOWLEDGE ON BREAST CANCER SCREENING METHODS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

When asked about their source of information on breast self examination. Almost two thirds, 31 (62%) of the respondents never got any information on breast self examination (Table 4.16). These could be attributed to the fact that one third of the respondents 17(34%) had an income of below K200, 000 per month and one third 17(34%) were unemployed respectively, implying that due to poverty levels, they cannot afford to buy Radios or Television sets to help them have access to information on the media or have access to health facilities were they can be given information on breast self examination and its importance. This is in line with the study conducted by Okobia, et al 2006 on Knowledge, attitudes and practices of Nigeria women toward breast cancer which showed that breast cancer mortality rates are higher in developing countries as a result of late detection and diagnosis. Several factors are attributable include genetics, cultural and social factors such as poverty, unequal access to prompt high quality treatment, lack of screening facilities, or lack of awareness and knowledge of the disease.

Almost two thirds, 31(62%) of the respondents never got any information on breast self examination (Table 4.16). These results could be accredited to the fact that 39(78%) of the respondents never received IEC (Table 4.17) on breast cancer. These women are among those who never received IEC despite visiting health facilities and having heard about breast cancer. The results indicate that women lack knowledge on BSE. This is in line with the study conducted in Nigeria by Akhigbe and Omuemu,(2006) on Knowledge, Attitudes and
Practice of Breast Cancer Screening among Female Health Workers in a Nigerian urban city, were the study results showed low knowledge levels (45.5%) about Breast Self Examination (BSE) as a screening method. These findings show that there is need for health personnel to design an educational programme to sensitize women on the dangers of breast cancer and the importance of early diagnosis through the use BSE.

5.6. KNOWLEDGE ON IEC AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS.

The study reveals that more than three quarters, 39 (78%) of the respondents never had any IEC given to them. (Table. 4.17) The results show that despite having heard of breast cancer from health care providers IEC was not given concerning risk factors, symptoms and screening method. This is contrary to the study conducted by Awodele et al (2009) on knowledge, attitude and practice of breast cancer screening among nurses in Lagos University Teaching Hospital, Lagos Nigeria where the major source (76%) of their information about breast cancer was from health professionals. Among the respondents 96% knew Breast Self Examination while 41% knew clinical breast examination as screening method. Eighty two percent of the respondents thought Breast Self Examination should be carried out monthly while very few subscribed to clinical breast examination. There is need for health professionals to intensify IEC on the importance of having knowledge on breast cancer on risk factors, symptoms and screening methods. It also indicates that there is need for health institutions to do more in terms of educating the public on breast cancer and there is need for training more health care providers so that they give correct information on breast cancer. There is need for community involvement in publicizing reproductive health issues including breast cancer risk factors, symptoms and screening methods. All women ought to be given adequate IEC which will help them make informed decisions about Breast Self Examination.
5.7. RELATIONSHIP BETWEEN VARIABLES

Regarding the relationship between knowledge on breast cancer risk factors, symptoms and screening methods and educational level, the study revealed that only two, (25%) of the respondents with tertiary education had high knowledge while only 4(14%) of respondents with secondary education had high knowledge (Table 4.19). This study shows that having knowledge or acquiring knowledge has little to do with education. People can still have knowledge despite education background as long as IEC is given to them. This study is in line with the study conducted by Odusanya and Tayo (2001) on Breast Cancer knowledge; Attitude and Practice among Nurses in Lagos, Nigeria where no demographic variable such as educational qualifications (p>0.78) was found to be associated with knowledge of risk factors.

Regarding the relationship between knowledge and socio-economic status three, (21%) of the respondents with income from K800,000 and above had at least high knowledge (Table 4.20). From this finding income has been noted as having an influence on knowledge of breast cancer because if one has a sound income, will be able to access medical care, access to media as they can afford to buy TV and radios. The result reveals that socio-economic status plays an important role in influencing knowledge on health matters. The more money one has the more advantageous one is terms of accessing health care. This is similar to the study conducted by Okobia, et al 2006 on Knowledge, attitudes and practices of Nigeria women toward breast cancer which showed that breast cancer mortality rates are higher in developing countries as a result of late detection and diagnosis. Several factors are attributable include genetics, cultural and social factors such as poverty, unequal access to prompt high quality treatment, lack of screening facilities, or lack of awareness and knowledge of the disease. Women with more money and education may have better access to health care. This means that when they get breast cancer, their tumors are more likely to be detected and reported.

Regarding the relationship between knowledge and IEC, only three, (8%) of the respondents who did not receive IEC on breast cancer had high knowledge (Table 4.21). IEC has been noted to have some influence on knowledge of breast cancer. The study results are similar.
with the study conducted by Awodele et al (2009) on Knowledge, attitude and practice of breast cancer screening among nurses in Lagos University Teaching Hospital, Lagos Nigeria, where the results revealed 100% rate of awareness of breast cancer although 32% of the respondents did not know that breast cancer could be inherited. The major source (76%) of their information about breast cancer was from health professionals. Among the respondents 96% knew self breast examination while 41% knew clinical breast examination as screening method. Eighty two percent of the respondents thought self breast examination should be carried out monthly while very few subscribed to clinical breast examination.

5.8. IMPLICATIONS TO THE HEALTH CARE SYSTEM

The health care system has an important and leading role in the dissemination of information on breast cancer. Breast cancer ranks second in cancer incidence and is still the second principal cause of cancer mortality among women worldwide Okobia, et al (2006). Women aged 30 to 60 years need to be sensitized about breast cancer risk factors. Nurses should encourage breast self examination and giving of IEC in that only three, (27%) of the respondents who received IEC on breast cancer had high knowledge (Table 4.21). This may be beneficial for high risk women. These findings have implications to the health care system namely, Nursing Practice, Administration and Research.

5.8.1. NURSING EDUCATION

The study revealed that more than three quarters, 38 (76%) of respondents did not conduct breast self examination because they didn’t know how to conduct self breast examination (Table 4.15). These results implies that, there is need for breast self examination to be included as a component in the curriculum of nurses. This will make it easy for the nurses to impart knowledge to women on breast self examination as they would have learnt of it at school.

5.8.2 NURSING ADMINISTRATION

Almost half, 11 (22%) of respondents did receive IEC (Table 4.17). The result implies that there is need to consider competencies of the health care providers in health institutions.
This will empower them to teach patients appropriate IEC to women as they come for Antenatal, postnatal and family planning clinics. The IEC will increase the number of women accessing health information messages on breast cancer.

5.8.3 NURSING PRACTICE

More than three quarters, 39 (78%) of the respondents never had any IEC given to them. The results that, nurses should shows that there is need to intensify IEC on the need for BSE as this may motivate women to practice BSE and which will help in early detection of breast cancer. This information can be given during Antenatal, post natal and family planning visits.

5.8.4 NURSING RESEARCH

About a quarter, 7 (14%) of respondents did conduct breast self examination (Table 4.15). Additional research is needed to explore the role of health care providers in doing routine breast self examination.

5.9 RECOMMENDATIONS

Based on the findings of the study, the following recommendations have been made to relevant authorities:

5.9.1. TO THE MINISTRY OF HEALTH

Ministry of Health through health education unit should increase the dissemination of information through media like radio and television to sensitize people on prevention of breast cancer.

It is also observed that most of the printed materials on breast cancer prevention from the Ministry of Health programmes on awareness are in English language. It is therefore, recommended that more brochures be printed in local language and programmes be aired in local languages. More sensitive instrument need to be developed to assess breast cancer risk factors, symptoms in high risk individuals who have not yet had a diagnosis of cancer.
5.9.2 NURSING PRACTICE

Workshops to be conducted more often to provide education and training needs especially concerning breast cancer risk factors, symptoms and screening methods. Nurses should be able to emphasize the importance of breast self examination and clinical breast examination to all women especially during Antenatal and postnatal visits.

5.9.3 NURSING RESEARCH

Future research efforts should also address the reasons why health care providers do not counsel female patients to perform breast self-examination during routine physical examinations.

5.9.4 TO CANCER DISEASE HOSPITAL

Being the only cancer hospital in the country, it is imperative that sensitization should be targeted to families accompanying patients to make them aware of available services offered e.g. Mammograms as this will eventually contribute to the reduction of late detection of Breast Cancer.

5.10 DISSEMINATION OF FINDINGS

Dissemination of research findings is the diffusion or communication of research findings by presentation and publication to a variety of audiences, such as nurses, other health professionals, policy developers and consumers (Burns and Grove, 2005).

The findings of the study will be printed and bound into a report which will be submitted to:

1. The University of Zambia medical library for reference
2. The Department of Nursing Sciences for reference and aid to teaching
3. Church Health Association of Zambia to be used to implement more partnership programmes
4. Cancer Disease Hospital so that the staff can make use of the information to sensitize the public. Also this copy would serve as reference for other interested parties such
as Non Governmental Organizations in partnership with District Health Management Team in health issues as well as the local community.

5.1 LIMITATIONS OF THE STUDY

The study had the following limitations:

- It was difficult to find data on studies done in Zambia on Breast Cancer. This made it difficult to make comparisons with other local findings to determine the differences and similarities in the findings.
REFERENCES


Microsoft Corporation (2009). Encarta Dictionaries


APPENDIX: IV  STRUCTURED INTERVIEW SCHEDULE

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF NURSING SCIENCES

RESEARCH TITLE: KNOWLEDGE OF BREAST CANCER, RISK FACTORS, SYMPTOMS AND SCREENING METHODS AMONG FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS AT CANCER DISEASES HOSPITAL, LUSAKA

DATE OF INTERVIEW: ............................................

SERIAL NUMBER....................................................

PLACE OF INTERVIEW.............................................

NAME OF INTERVIEWER.......................................... 

INSTRUCTION FOR INTERVIEW

1. Introduce yourself to the respondent

2. Establish rapport and explain the purpose of the study

3. Get verbal consent from the respondent before the interview

4. Assure the respondents of confidentiality and anonymity

5. Tick ( ) in the box corresponding to the correct response or write in the space provided.

6. Ensure that all questions are answered

7. Do not write the name of the respondent on the interview schedule
SECTION A: DEMOGRAPHIC DATA, AGE, GENDER AND EDUCATION

1. What is your relationship with the patient?
   1. Sister (  )
   2. Mother (  )
   3. Daughter (  )

2. What was your age on your last birthday? ______________

3. What is your highest level of education?
   1. Never been to school (  )
   2. Primary (  )
   3. Secondary (  )
   4. Tertiary (  )

SECTION B: SOCIO-ECONOMIC STATUS

4. What is your occupation?
   1. Employed (  )
   2. Unemployed (  )
   3. Self employed (  )
   4. Peasant farmer (  )

5. How much is your monthly income?
   1. K1, 000, 000 and above (  )
   2. K700, 000 -999,000 (  )
4. K500,000 - 699,000 ( )

5. K200,000 - 999,000 ( )

6. Is the money you earn enough to buy the essentials (food, clothing, rentals?)
   1. Yes
   2. No

7. If no, to question 6, how do you supplement your income?
   ________________________________
   ________________________________
   ________________________________
   ________________________________

SECTION C: GENERAL BREAST CANCER KNOWLEDGE AMONG THE FIRST
DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS.

8. Have you ever heard about breast cancer?
   1. Yes ( )
   2. No ( )

9. Tick appropriate sources where you heard about breast cancer
   1. Hospital ( )
   2. Friend ( )
   3. Work mates ( )
   4. Publications ( )
5. Television ( )

6. Any other (specify)................................. ( )

10. Is breast cancer the most common cancer among women?

   1. Yes ( )
   2. No ( )
   3. I don't know ( )

11. Does breast cancer occur more commonly in old people Above 60 years?

   1. Yes ( )
   2. No ( )
   3. I don't know ( )

12. Can breast cancer be inherited?

   1. Yes ( )
   2. No ( )
   3. I don't know ( )

13. Can breast cancer be caused by evil spirits?

   1. Yes ( )
   2. No ( )
3. I do not know ( )

14. Can early diagnosis improve the outcome of treatment?
   a) Yes ( )
   b) No ( )
   c) I do not know ( )

15. Is breast self examination useful in early diagnosis? ( )
   1. Yes ( )
   2. No ( )
   3. I don't know ( )

16. Is breast cancer curable when detected early?
   1. Yes ( )
   2. No ( )
   3. I don't know ( )
KNOWLEDGE ON BREAST CANCER SYMPTOMS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

17. Do you know any symptoms of breast cancer?
   1. Yes ( )
   2. No ( )

18. Does breast cancer present as a painless breast lump?
   1. Yes
   2. No
   3. I don't know

19. Tick from the list below the symptoms of breast cancer that you know?
   1. Swelling or lump in the breast ( )
   2. Swelling or lump in the armpit ( )
   3. Deformation of the breast shape ( )
   4. Ulceration of the breast ( )
   5. Nipple discharge (clear or bloody ( )
   6. Pain in the nipple ( )
   7. Scaly or pitted skin on nipple ( )
   8. Persistent tenderness of the breast ( )
   9. Unusual breast pain or discomfort ( )
KNOWLEDGE ON RISK FACTORS AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

20. Do you know the risk factors of breast cancer?
   1. Yes
   2. No

21. Tick those which you think are the risk factors of breast cancer?
   1. Increasing age ( )
   2. Early menarche ( )
   3. Late menopause ( )
   4. Familial history of breast cancer ( )
   5. Childlessness ( )
   6. Absence of breast feeding ( )
   7. Taking birth control pill or hormone replacement therapy ( )
   8. Late age at first Live birth ( )
   9. Age ( )

22. Do you think that you have higher risk for breast cancer in your circumstance?
   1. Yes ( )
   2. No ( )
KNOWLEDGE ON SCREENING METHOD AMONG THE FIRST DEGREE FEMALE RELATIVES OF BREAST CANCER PATIENTS

23. Do you know about breast self examination?
   1. Yes ( )
   2. No ( )

25. Tick Appropriately how often do you practice breast self examination?
   1. Once a month ( )
   2. Once in two months ( )
   3. Three to five times a year ( )
   4. Once or twice a year ( )
   5. None ( )

26. Where did you learn breast self examination?
   1. From a doctor ( )
   2. Publications ( )
   3. Television ( )
   4. Churches/religious groups ( )
   5. Women organizations ( )

27. Have ever been given any health information, education and communication on Breast cancer risk factors, symptoms and screening method?
1. Yes ( )
2. No ( )

28. If yes, what were you taught?

__________________________________________
__________________________________________
__________________________________________
__________________________________________

THANK YOU FOR PARTICIPATING.
APPENDIX: II. BUDGET

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**BUDGET JUSTIFICATION**

In order for the research to be carried out successfully, stationery, secretarial services and personnel will be needed.

**STATIONARY**

The reams of paper will be used for drafting the research proposal, interview schedule and research report. The scientific calculator will be used during the data analysis. The other accessories will be required for the routine collection of data. I will need pens for writing and pencils for coding. A rubber will be used to erase when making some changes.

**SECRETARIAL SERVICES**

Secretarial services will be used for typing, printing and photocopying the research proposal and the research report with the appendices. Binding of the research proposal and research report will also be done.

**PERSONNEL**

Lunch allowance will be needed because data collection may be taking 12 hours to try and find the respondents. Transport will also be needed to enable the researcher move from home to the Hospital.
DISSEMINATION OF RESULTS

The researcher will have to disseminate the findings, hence the need for the funds for logistics.
<table>
<thead>
<tr>
<th>TASK TO BE PERFORMED</th>
<th>PERSONNEL ASSIGNED TO TASK</th>
<th>DATES</th>
<th>PERSONAL DAYS REQUIRED</th>
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## APPENDIX: VI

### GANTT CHART

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</table>
The Principal Medical Superintendent,
University Teaching Hospital,
Private Bag RW IX
Lusaka.

UPS: The Head of Department
Department of Nursing Sciences
School of Medicine
P. O. Box 50110
Lusaka.

Dear Sir,

RE: PERMISSION TO UNDERTAKE A PILOT STUDY

I am a final fourth (4th) year student in the Department of Nursing Science at the University of Zambia, School of Medicine.

In partial fulfillment of the award of the Bachelor of Science Degree in Nursing, I am required to carry out a research project. My study is “Knowledge of Breast Cancer, Risk factors, Symptoms and Screening methods among the first degree relatives of Breast cancer patients.”

I therefore request for your permission to conduct interviews to the first degree relatives of breast cancer patients who are at the bed side in G Block. I intend to carry out this exercise 13th to 15th October, 2010.
Your assistance in this regard will be highly appreciated.

Yours faithfully,

[Signature]

SR. LUNGU GLADYS (RN)

BSc. IV Nursing Student
The Director
Cancer Disease Hospital
P. O. Box 51337
Lusaka.

U.F.S. The Head

Department of Nursing Sciences
School of Medicine
P. O. Box 50110
Lusaka.

Dear Sir

RE: PERMISSION TO CONDUCT A RESEARCH STUDY.

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing. In partial fulfillment of the requirements of this program, I am required to carry out a research project.

My study is "Knowledge of Breast Cancer, Risk factors, Symptoms and Screening Method among the first degree Relatives of Breast Cancer Patients."

I am therefore, requesting for permission to carry out this study at your Hospital. I intend to interview first degree female relatives of breast cancer patients. The study will be conducted...