

**AN EXPLORATION OF KNOWLEDGE, ATTITUDES AND PRACTICES AND OTHER  
BREAST CANCER DETERMINANTS INFLUENCING EARLY DETECTION AMONG  
WOMEN IN WINDHOEK**

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## **Dedication**

First and foremost, this study is dedicated to the Almighty God for His grace and mercies bestowed unto me. I also dedicate this study to all my supervisors and to my entire family members for their moral and financial support.

## Declaration

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31/08/2016

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## **Abstract**

An alarming increase of breast cancer in Namibia started in 2005 with a record of 179 cases, and 1625 cases in 2006 respectively. To date, the cancer Association of Namibia (CAN) as a registry reported 3092 cancer incidences in 2012.

The purpose of this study is to explore the Knowledge, Attitudes and Practices (KAP) and the correlation of the determinant factors on early detection of bread cancer among women in Windhoek. Methods used were the purposive sampling involving 236 women and simple random sampling for selecting six (6) health care facilities in Windhoek, Khomas region. The data collection was conducted over a period of three months, commencing in May 2015 and ended 31<sup>st</sup> July 2015. A structured questionnaire was used to interview 236 women. The questionnaire consisted of four sections such as Demography, Knowledge, Attitudes and Practice, cross tabulated with variables such as Age, Employment and Educational status. The data were analyzed by using the Statistical Package for Social Science (SPSS) software.

The findings indicated that 78.8 % of women had knowledge on breast cancer and early detection, whereas 21.2% lacked the knowledge. The question about sources of information regarding breast cancer yielded the following, clinics recorded 34%, while Television (TV) and radio media with 32.7%. These sources were found to have played the biggest role in information sharing.

Women with secondary education (64.5%) were more knowledgeable, followed by those with tertiary levels (29.5%). The age categories of 21-30 and 31- 40 indicated a sum of 46.8% to have knowledge on breast cancer.

Attitudes among women on breast cancer practices, multiple responses were given. 92.5% responded that they would consult a Doctor, while 87.6% would be scared about the disease. Fewer responses came from women who wished to consult the traditional healers and prayer house (9.1% and 1.1%) respectively. About 90.5% of women happen to have medical insurance cover whereas 59.0% have no medical insurance cover. About 63% of women have practiced mammogram, while about 31% did not practice the mammogram screening. Employed women and student/ learners (83.3%), reported to be practicing mammogram, while 75.6% of the unemployed didn't practice mammogram. Age categories of 21-30 and 41-49 recorded 72.1% and 66.7% respectively in practicing mammogram. The use of Clinical Breast Examination recorded a small fraction among respondents as only 27.5% visited the health facilities/ doctor for breast examination, while 72.5% were the women who did not seek any medical or visited the doctor for any clinical breast examination.

In conclusion; even though the study findings revealed that the majority of women in Windhoek have a sound knowledge of breast cancer, there are still some negative attitudes towards the screenings and practices as stated in the problem statement that there is an alarming increase of breast cancer in Namibia, therefore the study recommends that, the Ministry of Health and Social Services in collaboration with the

Cancer Association of Namibian with various stakeholders to develop some strategies on how to address the issues of early detection of breast cancer among women in their reproductive age.

**List of Abbreviations /Acronyms**

ACS -	American Cancer Society
BCDP -	Breast Cancer Detection Plan
BSE -	Breast Self-Examination
CAN -	Cancer Association of Namibia
CBE -	Clinical Breast Examination
HBM -	Health Belief Model
HRT -	Hormone Replacement Therapy
IARC -	International Atomic Research Centre
MFMER -	Mayo Foundation for Medical Education and Research
MoHM -	Ministry of Health Mongolia
MOHSS -	Ministry of Health and Social Services
KAP -	Knowledge Attitude and Practice
RCT -	Randomized Control Trial
NICE -	National Institute of Clinical Excellence
SERM -	Selective Estrogen Receptor Modulator



USFDA -	United States Food and Drug Administration
PGC -	Post Graduate Committee
PHT -	Postmenopausal Hormone Therapy
SADC -	Southern Africa Development Community
SPSS -	Package for the Social Science
USPSTF -	United States Preventive Services Task Force

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## **CHAPTER ONE : INTRODUCTION**

### **1.1 Orientation and background of the study**

Breast Cancer is a universal disease affecting people regardless of race, socio-economic status or culture. Breast Cancer can evoke deep fears of pain, suffering, dependence, disfigurement and death. The fear of this disease may delay examinations and diagnosis in the hope that the symptoms and signs will disappear. Consequently, this delay in seeking medical attention can affect the impact of treatment and diagnosis (Young, Van Niekerk & Mogotlane, 2003). It is against this background that this study seeks to explore the knowledge, attitudes and practices which influence early detection of breast cancer among women in Windhoek, Khomas Region.

Globcans in 2008, revealed that nearly 1.4 million cases of breast cancer were diagnosed across the world. It is further predicted that the number of breast cancer cases will rise to 2.1 million by 2030. It is also reported that in 2011, 508 000 women died due to breast cancer (Globcans '2008').

Studies conducted in Europe indicated that about 450,000 women are diagnosed with breast cancer and it is most common malignancy amongst women, with a corresponding 140,000 deaths. The incidence appeared significantly higher amongst women of European origin in the United States of America. The majority of women in Europe are postmenopausal when diagnosed with breast cancer and ductal carcinoma is mainly the type of breast cancer found among women in Europe (Abdulrahman & Rahman, 2012).

The affordability and availability of health care as well as the mandatory use of guidelines to make regular screening easier among women, has increased the probability of detecting breast cancer at a very early stage in developed countries like the United Kingdom and America.

In their effort to ensure early detection of breast cancer among women, the American Cancer Society (2012) recommended all three screening tests, namely; Mammogram, Women aged 45 to 54 should get mammograms every year. While those at 55 years and older should switch to mammograms every 2 years, or have the choice to continue yearly screening. Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer. All women should be familiar with the known benefits, limitations, and potential harms associated with breast cancer screening. Clinical Breast Examination and the Breast Self-Examination is also recommended together with the use of MRI surveillance for BRCA1 and BRCA2 mutation in women aged 30 - 49 years, while TP53 mutation in women aged 20 years or older to be offered and set them as guidelines for early detection of breast cancer, for which many countries have adopted these guideline.

In Africa, over 1.4 million women are diagnosed with breast cancer with the corresponding 460,000 deaths being recorded in 2008 world wide. Surprisingly, incidence of breast cancer among African women appears to be lower than that of their European counterparts. But Breast Cancer is known to be a leading cause of death among African women. For example, about 30,000 new cases were reported in 2008 and 16,000 deaths recorded in the Western and Eastern part of Africa due breast cancer.



In Southern Africa Development Community (SADC) region, Harare in Zimbabwe, the incidence of breast cancer in 1990-1992 was six times higher in whites (127.7%) than in blacks (20.4%) (Bassett, Chokunonga, Mauchaza, Levy, Ferlay, Parkin, 1995). Breast Cancer is common and is a primary cause of death among women in Southern Africa.

A total of 9,000 cases were recorded, of which 4,500 were deaths in the sub-continent. While in Northern Africa, 28,000 new cases of which 14,600 deaths were reported respectively in 2008. The incidence of breast cancer among Southern African women appears to be high because of the high proportion of the white population who are more affluent with a higher prevalence of reproductive risk factors for breast cancer, such as early menarche and late child bearing (Vorobiof, Sitas & Vorobiof, 2001).

Regionally, the Namib Times (2013) revealed that, Breast cancer is one of the leading forms of cancer amongst woman in the world with 458,400 deaths worldwide to breast cancer. In Namibia alone the numbers are high marking breast cancer the third most worrisome type of cancer. Statistics surrounding new cases of breast cancer are as follows: In 2008, there were 253 women and 7 men who had breast cancer, in 2009 there were 278 women and 6 men who developed breast cancer, in 2010 there were 288 cases in total, and in 2011 there were 291 new cases in women and 5 new cases in men. With these numbers continuously increasing, awareness in education and research are of utmost importance.

The Namibian newspaper (2014) reported that, cancer cases are on the rise in Namibia with breast cancer being one of the most common types of cancers, followed by skin cancer in second place, then Kaposi Sarcoma, Prostate and Cervical cancer among other types. Upon the release of the cancer incidence statistics by the Cancer Association of Namibia (CAN),

compiled together with those of the government, it has been observed that in Namibia, cancer incidences have been on the rise since 2006, with records of 1,625 cases detected, almost doubled the amount to 3,092 recorded in 2012, which represents about 47.0% increase during the six year period (2006 – 2012).

In 2012 alone, 458 cases of breast cancer were recorded and the figure is almost double the number (229) that was recorded in 2006. The ratio of breast cancer among the Namibian women today is one in every eight women is a victim to breast cancer. The compiled figures will not be accurate since the Government has no tumor registry that would indicate the prevalence and survival rate of cancer, these refers to the number of cases especially in rural areas where people have little access to health facilities which are not recorded and reported.

Despite many women in Namibia being affected with breast cancer, it came to light that, the crucial point such as the screening is still neglected; therefore sensitizing women on the importance of regularly screening is very crucial to detect cancer early enough for a better chance of one to receiving treatment.

The media pointed out many challenges with regard to breast cancer in Namibia, one of them being the issue regarding inadequate provision of health services in rural areas. Only few patients are being sent or referred to Windhoek hospitals and then to the Dr. A. Bernard May Cancer Hospital for treatment. Unfortunately, many only receive treatment with their cancer already being at an advanced stage. Many women don't have the necessary information and access to health centers, cancer is often diagnosed too late. A nurse at one of the cancer care centers in Khomas region stated that the center receives over 100 patients with different types of cancer every week from rural areas across the country (Namibia Sun, 2014).

Zietsman, Gariseb & Rautenbach, (2009) revealed that the most affected regions with breast cancer in Namibia are Zambezi, Hardarp, Kunene, Ohangwena, Kavango and Omusati with high numbers of women with breast cancer, while the Erongo, Karas, Khomas, Omaheke, Oshana, Oshikoto and Otjozonjdupa regions have fewer incidences reported every year.

Despite breast cancer having received renewed attention for the past two decades from governments, international organizations, Non-Governmental Organizations (NGOs), clinical practitioners and researchers, it is still considered an epidemic in Namibia (Sasco; 2003, cited by Ministry of Health and Social Services, 2011).

## **1.2 Problem Statement**

Knowledge, Attitudes and Practices (KAP) are considered as factors that influence early detection of breast cancer. Breast cancer is one of the most common types of cancer affecting women in Namibia. Most women in Namibia tend to seek medical advice when the disease (breast cancer) is already in its advanced stages, resulting in poor prognosis, because most of the women seek medical attention and present themselves to hospitals/ Doctors at a late stage of cancer. An estimated 20 - 30% of women wait for at least 3 months before seeking help when breast cancer symptoms are evident and in advanced levels when little time or no benefit is derived from any form of therapy resulting in poor survival and high mortality rates (Cancer Association, 2009-13).

In view of the expanded roles, nurses and midwives are expected to play important National campaigns on early detection of breast cancer awareness and embarking on improved breast cancer services, this study is thus important. It is a known fact that the earlier breast cancer is detected, the better one can have access to many treatment options and the greater the chances

of long-term survival. It is advised that early detection and screening can save women's lives if adhered to.

As a nurse by profession, and having worked both in the public and private hospitals, with eighteen (18) years of experience, this researcher observed that women with breast cancer which lead them to have operations such as mastectomy (the removal of breast), breast biopsy (removal of tissue for analysis purposes) were done at very late stages, whereby the treatment options were limited except surgery and chemotherapy as a last resort. This experience prompted the researcher to conduct this study. However, despite efforts made to educate women on the prevention and early detection of breast cancer, statistics reveal that there still exists a gap between dissemination of information and knowledge about prevention and early detection of breast cancer among women in Windhoek, Khomas region.

### **1.3 Purpose and Questions of the Study**

#### **1.3.1. Purpose**

The purpose of this study is to explore the Knowledge, Attitudes and Practices (KAP) and the correlation of the determinant factors on early detection of breast cancer among women in Windhoek.

#### **1.3.2. Research questions**

- What is the level of knowledge, attitudes and practices on breast cancer early detection among women in Windhoek?
- What is the correlation between the determinant factors that influencing knowledge, attitudes and practices on early detection of breast Cancer among women in Windhoek?

#### **1.4. Significance of the study**

The major significance of this study is its contribution towards:

It is widely known and accepted that early diagnosis of breast cancer can reduce mortality rate significantly and will promote women's overall health (American Cancer Society, 2008; Center for Disease Control, 2010; Champion, 1999, & National Cancer Institute, 2009). The majority of aspects to be measured are concerns raised by women using health care. In this regard women are more likely to participate actively in making health-related decisions (Arora & McHorney, 2000). The findings of this study will be used to guide women to be knowledgeable about their own health and to manage it properly.

The findings will be useful to the policy makers in developing strategies to alleviate the barriers and challenges faced by women in breast cancer health promotion. Therefore, the gaps and deficiencies that exist in the health promotion of breast cancer early detection should contribute to better health service planning. Hence, the findings will furthermore be useful for the improvement of breast cancer services by nurses and midwives.

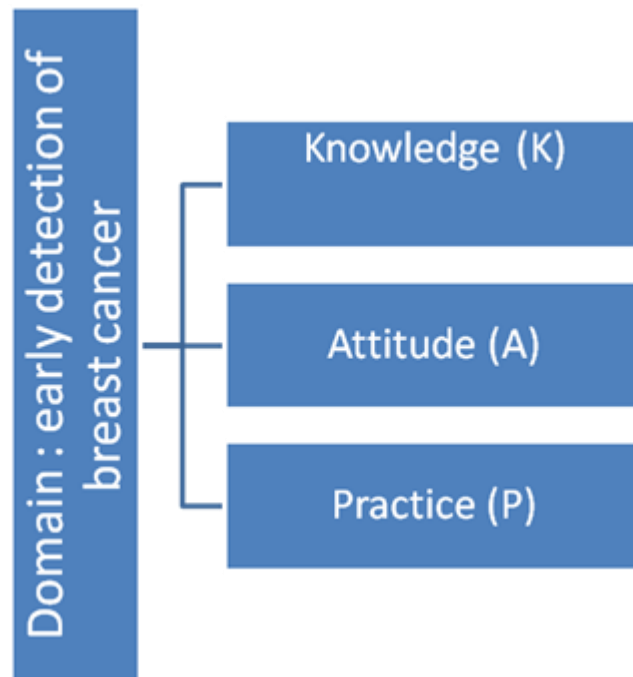
This study will contribute towards nursing research in Namibia because the results will add to the body of knowledge and practices in the nursing profession by emphasizing on the caring for all vulnerable women in the health care sectors.

## **1.5 Conceptual Framework**

The importance of the framework is to understand the aspects of early detection of breast cancer and the association of factors influencing early detection. These cannot be underestimated in our endeavor to fully understand breast cancer screening in Namibia, Windhoek. Therefore, it is advisable that whenever a study has to be conducted it should be done under the guidance of a conceptual framework. The conceptual framework for this study is based on the Knowledge, Attitude and Practice (KAP). Although researchers often use KAP studies as a methodology, Vandamme (2009) perceive this type of study as a conceptual framework to study human behavior instead of a specific methodology.

This conceptual framework in figure 1, explains how KAP is used to assess a community towards a concept (Vandamme 2009). Mwanje (2013) concurs with this view and used KAP as a conceptual framework in conducting a case study on malaria prevention and control in Uganda. The KAP conceptual framework progresses as below;

**Figure 1: The Knowledge, Attitude and Practice (KAP) conceptual framework**



(Vandamme, 2009)

- Domain identification

→ Domain identification: Kaliyaperumal (n.d.) holds the opinion that a KAP framework is aimed to study a specific domain or subject.

For the purpose of this study the domain is breast cancer. More specifically is about early detection of breast cancer among women in Windhoek.

- Knowledge (K):

→ This refers to what the human behaviour is with regards to knowledge of a specific domain.

- Attitude (A):  
→ With this regard the approach or feeling towards the domain is assessed.
- Practice (P):  
→ Refers to what respondents do about early detection of the domain of breast cancer

## 1.6. Key Definitions

- Knowledge: information of which a person, organization or other entity is aware of. It is gained either by experience, learning and perception or through association and reasoning. The term knowledge is also used to mean the 'confident thoughtful of a subject, potentially with the capability to use it for a specific purpose' (Groff & Jones, 2003).
- Attitude: it refers to the perception or way of thinking (Acharya & Shrestha, 2005).
- Practice: it refers to the actions or behaviour relating to an adult's education (Acharya & Shrestha, 2005).
- Breast cancer is a disease caused by the development of malignant cells in the breast. The malignant cells derive in the lining of the milk glands or ducts of the breast (ductalepithelium), defining this malignancy as a cancer. These cells are characterized by uncontrolled division of cells leading to unusual growth and the ability of these cells to invade normal tissue locally or to spread throughout the body, in a process called metastasis (Lange-Otsuka, 2004).
- Khomas Region is the name given to the region situated in the central part of Namibia. This name was originally derived from beautiful mountains found in the



region, which are called Khomas Mountains. The said mountains have fascinating features and have all along been associated with touristic attraction due to natural hot springs found in such mountainous rocks (Khomas Regional Council pamphlet, 2015).

### **1.7. Summary**

In this chapter the reader was orientated to the study regarding the purpose that necessitated this study to be undertaken, objectives, problem statement, significance, key definitions and conceptual framework.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

In the previous chapter the orientation and background, the purpose and significance of the study was discussed. The conceptual framework on knowledge, attitude and practice was discussed, the key definitions of the study was explained.

In this chapter 2, the researcher will explain what breast cancer is, the level of knowledge, attitude and practice on breast cancer as well as early detection of breast cancer. Breast cancer self-examination, clinical breast examination, Mammography as well as chemotherapy prevention and prophylactic surgery will be discussed. The warning signs and symptoms of breast cancer will also be discussed in this chapter.

### **2.2. What is breast cancer?**

It is stated as a disease caused by the development of malignant cells in the breast. The malignant cells originate in the lining of the milk glands or ducts of the breast (ductal epithelium), defining this malignancy as a cancer. Cancer cells are characterized by uncontrolled division leading to abnormal growth and the ability of these cells to invade normal tissue locally or to spread throughout the body, in a process called metastasis (Lange-Otsuka, 2004).

Researchers have shown that research does not know exactly what causes breast cancer, but they do know that certain risk factors are linked to the disease.

A risk factor is anything that increases a person's chance of getting a disease such a cancer (Thompson, McFairland, Hirsch and Tucker, 2002).

### **2.3. The correlation between the determinants factors that influences knowledge, attitudes and practices on early detection of breast Cancer and the screening services among women**

Lee, Lim and Sang (2010) conducted a study on factors associated with breast screening and it was revealed that age, educational level, household monthly income, marital status, alcohol consumption, smoking status, physical activity level, attitude towards effectiveness of medical examination, self-reported health status, visual problems, hearing problems, walking problems, and limitation on the daily basis as the most common factors associated with breast screening. The current study focused mainly on the social demographic health determinants. These factors were cross tabulated in order to show the association of variables that influence early detection of breast cancer.

Lee, Lim and Sang (2010) this study revealed that, women aged 65 years were less likely to undergo breast screening compared with those in the reference category of 40-49 years. Women who had graduated from elementary school, middle/high school, or university or other higher education institution were more likely to undergo breast cancer screening compared with women who had received no formal education.

The study observed an approximately two-fold decrease in breast screening among smokers compared to nonsmokers. Women with a positive attitude towards the effectiveness of medical examinations were also more likely to undergo breast screening compared to women with negative attitude or those who had not previously undergone a medical examination.

#### **2.4. Risk factors as determinant influencing breast cancer**

Risk factor is defined as anything that increases a person's chance of getting a disease such as breast cancer (Thompson et al., 2002). Causes are yet not known but, breast cancer is mainly linked to certain risk factors as causes.

Some risk factors like alcohol can be controlled while others like a person's age or family history cannot be changed. This does not necessarily mean that a person will automatically get the disease but that some factors are able to be avoided while others are unavoidable.

Pöhls (2004) conducted a study on "Awareness of breast cancer incidence and risk factors among healthy women" in Düsseldorf and found that 78.8% were well alert of breast cancer. In general terms most women (94.9%) considered past history of breast cancer as a risk factor, amusingly 37.1% considered breast feeding as a cause, followed by 32.0% that considered age at menopause factor, while 23.7% considered childlessness as potential risk factors. Two third of the respondents' personal risk for developing breast cancer ranges from low to average. The main source of information for this study was the Gynecologists (59.9%) on breast cancer.

Keitel and Kopala (as cited in Iita, 2009) have stressed that younger women tend to experience a higher mortality from the disease. Women who have a family history of breast cancer are at a higher risk for breast cancer than those without such a history. Women who have, especially strong family history that is two or more first-degree relatives (mother, daughter or sister) with breast cancer, particularly before menopause, have a greater than 50% chance of developing breast cancer. One of the main factors responsible for this elevated risk is an inherited genetic

mutations (permanent changes in genetic material) called BRCA1 and BRCA2 (Fletcher, 2006).

Thompson et al. (2002), stated that if a woman has already had a personal history of cancer in one breast, she has a greater chance of developing a new cancer in the other breast. This is especially true if a woman has inherited BRCA mutations.

A previous diagnosis of lobular carcinoma in situ (a localized tumour) is associated with a 10-30% greater breast cancer risk and a previous diagnosis of ductal carcinoma in situ is associated with 30-50% greater risk.

Fletcher (2006) further indicated that breast cancer risk may be related to the total number of ovulatory menstrual cycles a woman experiences and the longest known exposures to sex hormones, particularly estrogens, in her lifetime. Risk is inversely related to early age at menarche (first menstrual period) before the age of 11 and increased with a late age at menopause (end of child bearing period) 55 years or older.

Korde, Calzone & Zujewski (2004) are of the opinion that women who have never given birth are more likely to develop breast cancer after menopause than those who have given birth multiple times.

The timing of a first pregnancy also appears to play a role with women who have their first full-term pregnancy at the age of 30 years or older having an increased risk of breast cancer as compared to women who give birth before age 30. Although this may not necessarily be a lifestyle choice, having a first child at an earlier age may decrease the risk. Some studies have shown that breastfeeding slightly lowers breast cancer risk, especially if the breastfeeding lasts 1 to 2 years.

This could be because breastfeeding lowers a woman's total number of menstrual periods, same as pregnancy. One study found that having more children and breast-feeding longer could reduce the risk by half. Breast-feeding policy should be emphasized to women without any contra-indication (Fletcher, 2006).

Fletcher (2006) Women who have had a prior breast biopsy that revealed a proliferative abnormality (excessive growth of the glandular breast tissue, also called hyperplasia) have an increased risk for breast cancer, particularly if the cells appear abnormal (atypical hyperplasia). Otherwise, benign breast conditions that are not proliferative (for example fibrocystic change or a noncomplex fibro-adenoma) do not increase the risk of a woman developing breast cancer. Any woman who undergoes a biopsy of a breast abnormality needs to fully understand the results, particularly if they impact the frequency of breast cancer screening.

There are certain potentially modifiable lifestyle factors that represent an important class of risk factors for breast cancer. Obesity has been found to increase the incidence of breast cancer by up to two and half times in postmenopausal women. The risk seems to be higher if the extra fat is in the waist.

Therefore, the use of red meats, especially those high in fat should be limited. Conversely, obesity appears to be protective in pre-menopausal women. This is likely due to an increase in an ovulatory cycle, resulting in lower levels of circulating estrogens in young obese women (Shepherd and McInerney, 2006).

Risk factors can be categorized into two; the determinants and modulators risk factors. The determinant risks are those which cannot be changed or influenced e.g. hereditary or diseases

in families. The modulators risks are those factors that can be changed or influenced by life style based mainly on one's behaviors. Pöhls, Renner, Fasching, Lux, (2004) argued that this factors can influence breast cancer Screening and early detection.

#### **2.4.1. The determinant risks Factors:**

(Pöhls et al. 2004) states that, these factors cannot be changed or influenced.

**Gender:** Being a woman puts one at a risk factor for breast cancer. Incidence of breast cancer in male is very low. Men account for approximately 1% of all breast cancer cases.

**Growing age:** Incidence of breast cancer is low before 40; in absolute terms, advancing age is the greatest risk for developing breast cancer. About 17% of the invasive breast cancer diagnoses are women in their 40s, while 78% of the women diagnosed the same invasive breast cancer when they are in their 50s or older. A woman's chances of getting breast cancer increases with age, from 30-39 years at the rate of 0.44% (1 in 227), while from 40- 49 years at 1.49% (1 in 67) and from 50-59 years at the rate of 2.79% (1 in 36), finally at 3.38% for women between 60 and 70 years of age.

**Genetic predisposition:** Recent studies have shown that about 5-10% of breast cancer cases are hereditary as a result of gene changes (called mutations). The most common mutations are those of the BRCA1 and BRCA2 genes.

**Family history of breast cancer:** Research has shown that women with a family history of breast cancer have a higher risk for developing the disease. Having 1, a first-degree relative (mother, sister, or daughter) with breast cancer approximately doubles a woman's risk. Having 2, first-degree relatives increase her risk 5 fold.

***Personal history of breast cancer:*** A woman with cancer in one breast has a 3 to 4 fold increased risk of developing a new cancer in the other breast or in another part of the same breast.

***Race:*** women with light skin colour are more susceptible to develop breast cancer than black African- American women. But the survival rates for light skin Americans are higher than African-American women at each stage of the disease. Many experts now believe that the main reason for this is because African-American women have more aggressive tumors than the Americans.

The reasons for this line of thoughts are not yet known. Asian, Hispanic, and Native-American women have a lower risk of developing and dying from breast cancer.

***Early age at menarche and late menopause:*** Early menarche and late menopause both increase the risk of developing breast cancer.

#### **2.4.2. Risk modulators (Lifestyle-Related Breast Cancer Risk factors)**

These factors can be changed or influenced and these are:

***First birth at late age and low parity:*** Delaying childbirth or remaining childless increases the risk of developing breast cancer. The higher parities and earlier age at first pregnancy of women in many developing countries might account for lower incidence of breast cancer in relation to developed countries.

***Hormone Replacement Therapy (HRT):*** It has become clear that long-term use (several years or more) of postmenopausal hormone therapy (PHT), particularly estrogen and progesterone combined, increases risk of breast cancer. ***Alcohol consumption:*** Recent studies have shown



alcohol consumption increases the risk of breast cancer. In a summary analysis of epidemiologic studies, breast cancer risk increased between 40 and 70 percent with about two drinks daily.

*Obesity and high-fat diets:* The relationship between obesity, high fat intake and breast cancer is complex. Most of the studies found obesity and high fat intake as one of the risk factors for developing breast cancer. But the relation seems not to be too strong or consistent.

## **2.5 Level of knowledge, attitudes and practices on breast cancer early detection**

Knowledge, Practices and Attitude (KAP) survey is conducted to investigate human behavior related to a certain topic. It identifies what the people know and that is knowledge, how they feel, is attitude and what they do, is practice. Vandamme (2009) revealed that the KAP study can be used for diagnostic purposes for which they describe the population's current knowledge, attitude and practice, can also be implemented to increase insights in a current situation and help design appropriate specific interventions. KAP can be used as an evaluation tool to evaluate the effectiveness of certain interventions or programmes.

The three topics measured by the KAP study are Knowledge, Attitude and Practice. However, in this study:

*The knowledge possessed by the community refers to their understanding of any given topics, for example breast cancer (Kaliyaperumal, 2004):*

Odusanya and Tayo (2001) conducted a cross-sectional survey among nurses working in a general hospital in Lagos to determine the level of knowledge, attitude and practice (KAP) of breast cancer. The aim was to investigate knowledge of symptoms, methods of diagnosis and use of cancer screening methods.

The knowledge about symptoms, methods of diagnosis and self-breast examination was found to be generally very good. However, only 30% had practiced clinical breast examination, while 8% performed mammogram within the past three years. Use of cancer screening methods was significantly associated with knowledge of the subject.

The results revealed that, only twenty-eight percent (28%) was found not to know how to estimate the risk of cancer and sixty-one percent (61%) believed not to be at risk. Knowledge about breast cancer was found to be high, but they needed more information on cancer risk estimation. According to the study insufficient knowledge of women about breast cancer and the identified negative influence of low knowledge on the practice of BSE explains attitudes and practices of the respondents.

Ministry of Health (MOH) Mongolia (2010-11) conducted a study on knowledge, Attitudes and Practices of Non-Communicable Diseases among Mongolian population. The study found that, one in four women did not have any knowledge about breast cancer and only 7.6% expressed that they knew a lot about breast cancer. The study also revealed that the level of knowledge increased with age and along with an increased risk for breast cancer. Fifty point nine percent (50.9%) of respondents never worried that breast cancer can affect their families and 45% expressed that they only sometimes think about it.

Jebbin and Adotey (cited in Muhammad, 2007) conducted a study on attitude, knowledge and practice of Breast Self-Examination (BSE) in Port Harcourt, Nigeria.

They found that 85.5% of the respondents have heard of breast self-examination, but only 39.0% practiced BSE occasionally. And the sources of information were revealed to be the media, nurses and physicians.

Choudhry, Srivastava and Fitch (cited in Muhammad, 2007) conducted a study to explore knowledge, attitude, beliefs and practices regarding breast cancer among South Asian women who lives in Canada. The study found that 12% of the participant practiced Breast Self-Examination monthly, 49% had undergone at least one Clinical Breast Examination during their lives and 47% had never performed mammography screening. About 21% of the respondents revealed that detecting early was important and only 5% reported that cancer could be cured.

*Attitude refers to their feelings towards this subject, as well as any preconceived ideas that they may have towards it (Kaliyaperumal, 2004).*

Although young women showed a positive attitude towards breast cancer, countries like Bangladesh still faced with a lot of misconception regarding breast cancer. Most people believe that breast cancer is a non-treatable disease and that there is no cure. This misconception led women not to consult the doctors, and only present themselves at the very advanced stages of breast cancer, Sariego, Matsumoto, Vosburgh & Kerstein, (as cited in Muhammad, 2007).

Regan & Durvasula (2009) and Ludwig & Turner (2002) stated that although early detection of breast cancer is clearly associated with breast cancer survival; many women still do not follow recommended screening guidelines this indicates a negative attitude towards the screening.

Several barriers have been identified which influence women's choices regarding breast cancer screening. These factors include accessibility, cost, trust of healthcare providers, lack of transportation, lack of knowledge of cancer screening guidelines, and the underlying belief that cancer itself is incurable (Ministry of Health and Social Services, 2011).

Although the factors related to breast cancer screening behaviors are multi-faceted, the overarching idea is that knowledge and awareness are crucial for breast cancer prevention.

Powe, Daniels, Finnie and Thompson (2005) stated that although women had heard about breast cancer screening, some African-American women were less likely to participate in breast cancer screening and early detection programs. Thus, such reactions influenced their breast cancer screening and treatment decisions which include cancer fatalism, fear, knowledge about the disease, access to healthcare issues, and mistrust of the healthcare establishment.

*Practice refers to the ways in which they demonstrate their knowledge and attitude through their actions* (Kaliyaperumal, 2004). Alam (2006) in Saudi Medical Journal, published a study to assess the knowledge of breast cancer and its risk factors among women in Riyadh. The study found that the level of knowledge on breast cancer and BSE to be high (82%). However, only 41.2% of the women practiced BSE with a lesser percentage performing it regularly, on a monthly basis.

In comparison to the current study also revealed same results of high level knowledge about breast cancer (80%) with few respondents practicing in BSE on monthly basis.

While Oluwatosin & Oladepo (2006) conducted a study on rural women of Ibadan, Nigeria. The study revealed that 90.7% of the respondents did not know anything about the treatment of breast cancer, however half of the participants (55.2%), agreed that early detection and effective treatment can prevent death.

A total of 6.4% acknowledged that BSE was a good tool, while 1.2% respondents identified clinical breast examination as a method to detect cancer. No respondents could identify mammography as an early detection measure. In response to the question “Have you ever examined your breast for early detection of breast cancer?” Only 10.9% answered yes, while 89.1% said no.

“Among the 300 sampled size only 54% of the respondents claimed that they had ever heard of BSE and the leading source of information was “elders” ”neighbors” and “Friends”. Only 22 referred the source of information was radio” (Oluwatosin & Oladepo, 2006).

Pillay (2002) recorded that almost, one fifth of women had never heard about breast cancer in South Africa and about half had never heard of BSE. One third of the respondents in this study were unaware of any tests for breast cancer. This reveals inadequate information and awareness related to breast screening and explains the reason why a high incidence of breast cancer could be presented late.

In contrast to the study above, Pinar (2002) in his study about the knowledge and attitude of breast self-examination and mammography in a group of women in a rural area in western Turkey found that the majority (76.6%) had heard about breast cancer but only 56.1% of them had adequate knowledge about breast cancer.

TV and radio programs were identified as the main source (39.3%) of information. Most of the respondents (72.1%) had knowledge about breast self-examination but less percentage are seen when it comes to practice. Only about 40.9% of the women had practiced BSE in the previous 12 months, while 10.6% of the respondents stated that they had mammography test, and 25.0% had clinical breast examination.

Sanchez, Suarez, Vazquez, Velez, & Nazario (as cited in Ahuja, & Chakrabarti, 2010) in their study revealed that, no statistically significant correlation between knowledge and early detection practice exist. This study further argued that although 38.75% of women were found to have good awareness about breast cancer, very few (12%) actually performed BSE on a monthly basis. Sanchez et al, (2006) also noted that women who had lesser misconceptions were more likely to have had a Clinical Breast Examination (CBE) or a Mammogram. The study further noted that a higher socio economic status correlated positively with BSE performance, such as age, and those women who belonged to a higher social class were more aware of cancer issues than those who were economically challenged, and younger women were more aware than the older ones.

The screening of breasts in this context means checking a woman's breasts for cancer before signs or symptoms of the disease appears, there-fore, for the purpose of this study; the focus will be on the three major screening methods as it was recommended by the Center for Disease Control and Prevention (2014). Suggestions have been made which advocated that an early Breast Cancer Detection Plan (BCDP) should be developed by each woman (The International Breast Cancer Association Inc, 2006). The best known screening methods are:

## **2.6 Breast Self-Examination**

Breast Self-Examination refers to the inspection or examination of breasts for lumps, changes in size or shape, and other changes in the breasts or underarm (armpit). Monthly breast self-examination (BSE) should begin at an early stage of 20 to 39 years. Breast cancer risk is very low for women below 20s and gradually increases with age (American Cancer Society, 2007). BSE should be done monthly at a regular time when the breasts are not tender.

In premenopausal women, the best time is seven (7) days after the start of menstruation because during this time, hormonal stimulation of the breasts is at its lowest point. In these women the nodularity and tenderness of breast is minimal. For women aged 15-49 years on oral contraceptives, the first day of a new package may be a helpful reminder. Women who have had hysterectomies should set a regular date for monthly BSE. The monthly date of a birthday or the first day of the month is common choice for many women (ACS, 2007). All the methods on when to perform BSE described above are applied in all public hospitals in Namibia.

BSE should be done in good light and should include inspection before a mirror and careful systematic palpation. The entire breast, axilla and clavicle should be examined. The woman should be taught the BSE procedure by a health care provider, using the woman's own hands on her breast. The nurse who is teaching BSE must emphasize that detection in early 40s enhances survival rates. BSE teaching techniques should include allowing time for the woman to ask questions about the procedure and to perform a return demonstration.

The woman should be told what to look for, such as a lump, nipple discharge, nipple retraction, redness, pain or tenderness, dimpling of the skin or oedema, American Cancer Society (2007)

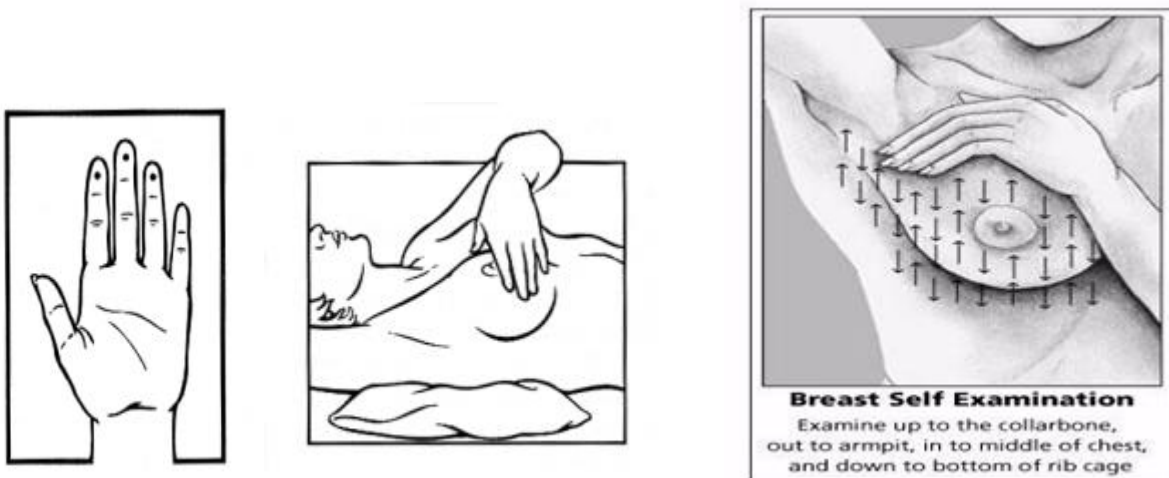


and Cokkinides (2008). Health care providers in public hospitals are trying their level best to demonstrate procedures to women especially during ante-natal and post-natal services.

Some teaching techniques involve using Silicone Breast Models (SBM) that simulates normal and abnormal tissue to help women to identify problems. The woman should be shown the normal variations in her own breasts so that she will be able to detect changes.

Women should also be taught how to check for the other main symptoms or any changes on the breasts as mentioned earlier.

**Figure 2: Demonstrates on how breast self-examination is done**



Gregory and Russell (as cited by the Ministry of Health and Social Services, 2011) states that for the maximum screening benefit, it should be done by using technology at appropriate intervals for breast cancer.

The only empirical documented risk reduction measure is regular mammograms after the age of 50 years. Breast Self-Examination (BSE) has been promoted, since the majority (90%) of those detected with breast lumps are discovered by women themselves or their partners.

It must be noted that, in undeserving communities without access to mammography, BSE is a great tool that can assist prospective victims.

### **2.7. Clinical Breast Examination**

A clinical breast exam is an examination by a doctor or nurse, who uses his or her hands to feel for lumps or other changes. The American Cancer Society recommends that, for women aged 20-39 with asymptomatic have to perform Clinical Breast Examination (CBE) as part of a regular health examination, every three years. In support to the above statement, health care providers should examine the shape, texture, location of any lumps, and skin changes during a CBE (American Cancer Society, 2007c-2008).

CBE is done with mammograms and offers a chance for women and their doctor or nurse to discuss changes in their breasts; early detection testing; and factors in the woman's history which might make her more likely to have breast cancer. There may be some benefit in having the CBE shortly before the mammogram. The examination should include instruction for the purpose of getting more familiar with your own breasts. Women should also be given information about the benefits and limitations of CBE and BSE. The chance of breast cancer occurring is very low for women in their 20s and gradually increases with age. Women should be told to promptly report any new breast symptoms to a health professional.

Saslow, Hannan, Osuch, Alciati, Baine & Barton (2004) revealed other important issues of CBE stating that, it can be employed to detect breast abnormalities, evaluate patient reports of symptoms, and to find palpable breast cancers at an early stage of progression. According to Saslow et al. (2004) early stage breast cancer treatment options are generally more

numerous, include less toxic alternatives, and are usually more effective than treatments for later-stage cancers. Average-risk women who are 40 years of age and younger with earlier detection of palpable tumors identified by CBE can lead to earlier therapy and improved prognosis.

CBE is commonly practiced and broadly continues to be recommended by many leading health organizations. Researchers (Meissner, Breen, and Yabroff, 2003 as cited by Frankenfield, 2009) conducted a study on the trends in the use of CBE, mammography between the years 1990 and 2000, the proportion of women reported recent use of CBE decreased for almost all races of women. Mammography use has increased since 1990, while CBE use has decreased steadily. Health educators and health care providers need to be aware of the lower rates of CBE.

In 1999, Liang, Shediak-Rizkallah, Celentano, and Rohde (as cited by Frankenfield, 2009) reported about preventive health behaviors related to groups of behaviors. The study correlated Behavioral Risk Factor Surveillance System in order to examine preventive health behaviors. Over 78 percent of breast cancer screening in females of all ages reported receiving a CBE 0-12 months ago, while 5.5 percent never received a CBE during their lifetime.

## **2.8 Mammography**

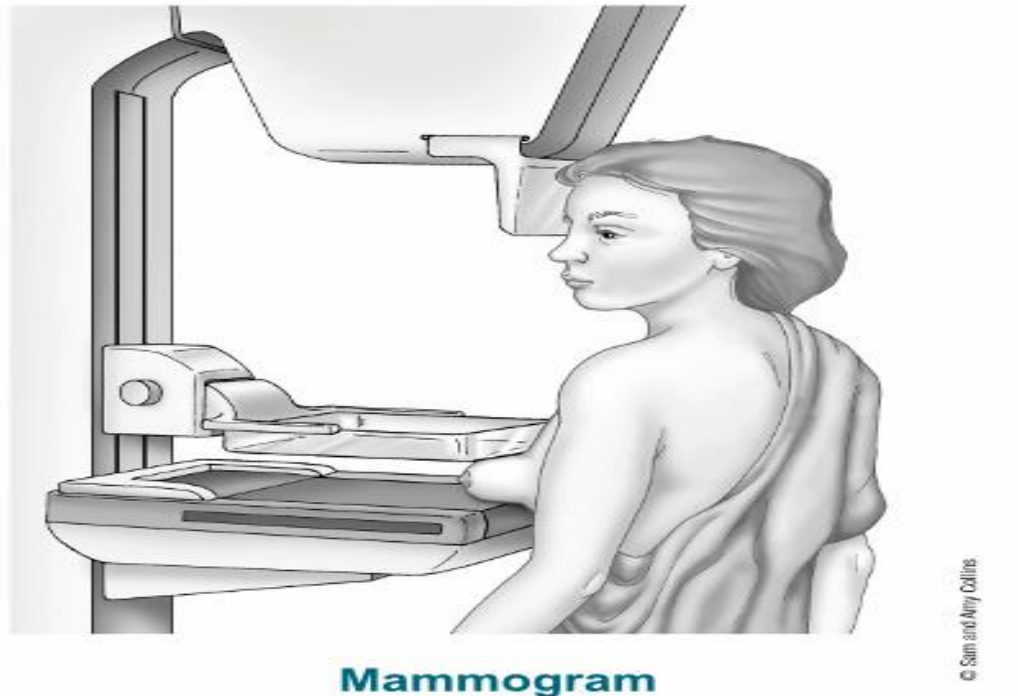
This refers to an X-ray of the breast. Mammograms are the best ways for early breast cancer detection, in order to treat lumps which are not palpable or revealing symptoms (American Cancer Society, 2007). The regular use of mammograms can lower the risk of dying from breast cancer. The United States Preventive Services Task Force (USPSTF) recommends that women aged 50 to 74 years old be sure to have a screening mammogram every two years. Women aged 40 to 49 years, should talk to a doctor on when to start and how often to get a screening mammogram.

Current evidence supporting mammograms is even stronger than in the past, in particular, recent evidence has confirmed that mammograms offer substantial benefit for women in their 40s. Women can feel confident about the reimbursement associated with regular mammograms for detecting cancer early. However, mammograms also showed some limitations by detecting some diseases not cancer, and it may lead to follow up of findings to confirm that it's indeed not cancer. All women who go for such a test should be told about the benefits and limitations linked with yearly mammograms.

Despite their limitations, mammograms are still a very effective and valuable tool for diminishing suffering and death from breast cancer. The use of mammograms should be constant regardless of a woman's age, as long as she does not have serious chronic health problems such as congestive heart failure, end-stage renal disease, chronic obstructive pulmonary disease, and moderate to severe dementia. Age alone should not be the reason to stop having regular mammograms.

Women with serious health problems or short life expectancies should discuss with their doctors whether to continue having mammograms.

**Figure 3: Illustration of the mammography screening**



## **2.9 Chemotherapy prevention**

Refer to the use of medication in order to reduce cancer risk. Currently, tamoxifen citrate (Nolvadex), a Selective Estrogen Receptor Modulator (SERM), is the only agent approved by the United States Food and Drug Administration (USFDA) for breast cancer risk reduction. In 1998, results of a large randomized trial showed that tamoxifen reduced the incidence of breast cancer by 49% in women at high risk of the disease. The most marked risk reduction was seen in women with a history of atypical hyperplasia, who had a decrease of 86% in risk (Korde, Calzone, & Zujewski, 2004).

## 2.10 Prophylactic surgery

Prophylactic surgery can significantly reduce the risk in women with known or suspected hereditary breast cancer. In patients with known genetic mutations, prophylactic mastectomy has been shown to reduce the risk of breast cancer by at least 90% (Korde et al., 2004).

This study focused mainly into the three different types of breast surgeries, those mentioned are likely to be associated with the current study. Namibia has recorded an increase in breast cancer among women, which is due to the delay in detection, many have undergone breast surgeries as a result. The three types listed below are the common surgeries, with the mastectomies being the most common operations performed in both public and private hospitals.

The goal of breast cancer surgery is to remove the tumor and some of the surrounding healthy tissues. In most cases surgeon tries to save as much part of the breast as possible. In some cases, the entire breast might be removed. Breast cancer surgeries differ by the amount of healthy tissues that are removed with the tumor.

Some lymph nodes under the armpit are usually removed as part of the operation so they can be checked for cancer cells. This will assist the doctor to plan the treatment after surgery.

Types of breast cancer surgery include:

- Lumpectomy
- Partial or segmental mastectomy or quadrantectomy
- Simple or total mastectomy

**Lumpectomy:** Is also called breast-conserving surgery, the surgeon removes the tumor and a little bit of healthy tissues around it. A second incision under the armpit may be made to remove the lymph nodes. The main aim of a lumpectomy is to leave as much of your healthy breast tissues alone as possible.

After the lumpectomy, radiation is usually used to treat any cancer cells that were left behind. Lumpectomies are the type of surgery in small or early-stage of breast cancers.

Women who have already had radiation for their breast cancer, those who have two or more areas of cancer in the same breast that are too far apart to be removed through one incision as well as Women who have large tumors will simply need not a lumpectomy rather be treated with chemotherapy or hormone therapy to shrink it first, and then have a lumpectomy.

**Partial or Segmental Quadrantectomy:** the surgeon removes more breast tissues than with a lumpectomy. The cancerous area and a surrounding area of healthy tissues are removed. Radiation is usually given afterward (WebMD, 2005-2015).

**Mastectomy:** Is the removal of the entire breast (in most but not all cases, this includes the nipple and areola).

Some axillary lymph nodes may also be removed to see if cancer cells are present. Breast reconstruction can be done at the same time as the mastectomy or later, at times women choose not to have reconstruction.

It is advised that women should be taught that Surgery does not cause cancer to spread, it is a myth that exposing breast cancer to air during surgery or cutting through the cancer might

cause it to spread. Surgery and diagnostic (such as surgical and needle biopsies) do not cause breast cancer to spread (Komen, 2015).

### **2.11 Warning signs and symptoms of breast cancer**

The Mayo Foundation for Medical Education and Research (MFMER, 2006), revealed that a lump which is single and firm or thickening is the most common sign of breast cancer in women. Not all breast lumps are cancerous; however, there is also a unique type of inflammatory breast cancer that does not produce a distinct mass or lump that can be felt within the breast.

The lack of a lump or mass also makes inflammatory breast cancer difficult to detect by mammograms. Inflammatory breast cancer cells infiltrate the skin and lymph vessels of the breast. When the lymph vessels become blocked by the breast cancer cells the breast becomes red, swollen and warm.

Patton (as cited in National breast cancer foundation, INC, 2006) stated that the skin changes are associated with inflammation and can cause the breast skin to look like an orange. The appearance of the breast is similar to the other inflammatory conditions such as cellulites or mastitis.

Other possible associate symptoms include a skin that is hot to the touch, pain and/or itchiness, ridges or thickened areas of breast, rash (entire breast or small patches) and veins on the skin surface becoming more prominent.



Herron and Freeth (2005) maintain that enlarged lymph nodes under the arm or above the collarbone on the affected side is also a sign. Signs of this nature are diagnosed based upon the results of a biopsy. Other signs and symptoms are nipple pains that appear inverted or flattened or spontaneous clear or bloody discharge from the nipple may indicate cancer. However, these signs and symptoms are also associated with other non-cancerous breast conditions. If a woman is experiencing these symptoms, it is important not to panic but to seek medical help.

## **2.12 Summary**

In this chapter the literature review focused on aspects which have to be considered in a study which aims to explore knowledge, attitudes and practices as factors that influence early detection of breast cancer among women in Windhoek, Khomas Region. In chapter three (3) the research design and methodology will be discussed.

## **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Introduction**

The study is a combination of qualitative and quantitative, cross sectional analytic survey aimed at exploring the knowledge, attitudes and practices as factors that influence early detection of breast cancer among women in Windhoek, Khomas Region. This study was confined only to the selected health facilities (Clinics) on aspects related to ante-natal care and family planning. This chapter describes the research design, sampling techniques, procedures and research instruments that were used in the process of data collection. The chapter also discusses the results of the pilot study and the methods used to analyse the data.

### **3.2 Research design and methodology**

To undertake a scientific study, all components should fit together in a meaningful whole. In order to achieve this goal, the researcher needs to draw up a design, the strategy for conducting the study or the plan to reach the purpose and objectives of the study. Burns and Grove (2005) describes the research design as the blueprint for conducting a study, while (Polit, Beck & Hungler, 2001) describe the research design as the research investigation in a logical and systematic way.

In this study the researcher decided to combine qualitative and quantitative approaches to explore the level of knowledge, attitudes and practices of the early detection of breast cancer in the Khomas region. Even though combined, quantitative approach still dominates in the study.

Qualitative responses were coded for easy analytical purposes using statistical software, e.g., response such as Yes or No were coded 1 or 2 respectively.

### **3.2.1 Study design**

Burns and Grove et al. (2001) are of the opinion that quantitative research is the formal, objective, systematic process in which numerical data are used to obtain information about the world. Similarly Firestone (as cited by Likando, 2009) is of the opinion that the advantage of the quantitative approach is based on the assumption that, there are social influences with an objective reality separate from the views of individuals. In this regards the researcher choose to be more on the quantitative approach side focusing on the cause – effect relationship (Gall, Borg & Gall, 2006) and aiming to explore and describe possible causes and effects of a behavior pattern by comparing individual's responses to the particular issues.

### **3.2.2 Cross-sectional analytical study**

Analytical cross-sectional study, the investigator measures exposure and disease simultaneously in a representative sample of the population, this makes it possible to generalize the results obtained in the sample for the population as a whole.

#### **3.2.2.1 Design of a cross-sectional study**

Cross-sectional study usually starts with a reference population, from which a random sample is taken. Data are collected at the same time on the risk factor or characteristic and the condition.

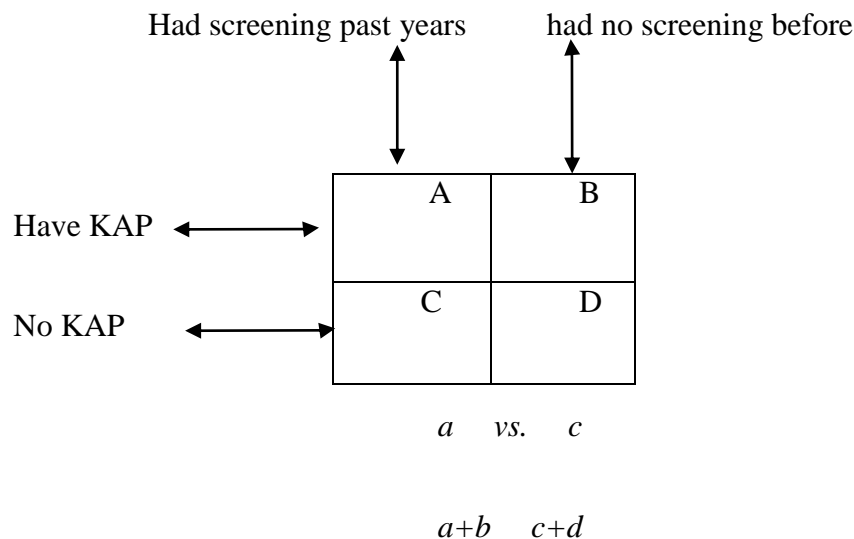
The measures of outcome are characteristic (exposure) and disease, Characteristic (exposure) and no disease. To the reference population will measure no characteristic (no exposure) and

disease, no characteristic (no exposure) and no disease Sample (Kleinbaum, Kupper, Morgenstern, 1982; Schlesselman, 1982) cited in Health Research Methodology, 2001.

This study focused on the target population of women in Windhoek, Khomas region in their reproductive age group and who happen to be at risk of being affected by breast cancer.

The outcome characteristics there-fore of women who had mammography at least in the past years as compared to the one who never had mammography before, these will be in correlation to the risk factors as valuable like age, employment status, marital status culture and education.

**Figure 4: Prevalence of disease in Exposed compared to not Exposed**



### 3.3 Research Method

A research method can be defined as a systematic set of techniques and procedures that a researcher follows in order to collect and analyze data, Polit et al. (2001). In this study, a questionnaire was used to collect and explore information on the knowledge, attitudes and practices of early detection of breast cancer among women in Windhoek, Khomas region.

### **3.3.1 Population**

According to Best and Kahn (2006) a population is any group of individuals that have one or more characteristics in common and that are of interest to the researcher. The population for this study consisted of all women of child bearing age 15-49 years, attending the family planning clinics in Windhoek, Khomas region. Two hundred and thirty six women participated in the study who attended family planning at the six (6) selected health centers.

### **3.3.2 Sampling**

Cochran, Levy & Lemeshow (as citing in Health research methodology, 2001) stated that sampling is a process of choosing a section of the population for observation and study. There are several reasons why samples are chosen for study, rather than the entire population. First and foremost, a researcher wants to minimize the costs (financial and otherwise) of collecting the information, processing this information and reporting on the results. If a reasonable picture of a population can be obtained by observing only a section of it, the researcher economizes by choosing such a section of the population. Obviously, when a sample is observed, the total information will be less than if one were to observe the entire population.

#### **3.3.2.1 Sample size**

On average of three (3) month 4320 women aged 15 and above were seen in the six health facilities which make up to 240 as a 10% sample representative. In the same manner, the sample size was determined by using epi-info in line with the research design employed in this study. This is to illustrate how a Sample size (  $n$  ) of a cross- sectional analytic design as

calculated by Epic-Info were determined .The following Steps were followed , by select and click on:

- ❖ Utility
- ❖ Start calculation
- ❖ Sample size
- ❖ Cohort/cross- sectional
- ❖ A. 95% confidence level
- ❖ B. Power =80 %

The info entered, selected the two by two tables to suit the comparison groups as narrated in the design .E.G

**Table 1: Sample size Calculation**

	<u>Outcome</u>	
	No Knowledge	Yes Knowledge
30% No education		
70% Yes education		

The ratio of the Unexposed to the exposed = 2:1

70:30      70 /30

2:1

Risk ratio is 1.5 means the relative prevalence of lack of knowledge on early detection in the uneducated women compared to the educated women.

With regard to what was selected for the design and the steps followed, the lastly click on the F4 gave the total sample size = 240 divided as unexposed=160 and the Exposed=80.

### **3.3.2.2 Sampling Procedure**

For the purpose of this study the sampling approaches that were followed is purposive/ judgmental sampling approach.

This was done so because of not having a sampling frame of all women in child bearing age in Windhoek district. Simple random selection among women who were visiting the selected health centers as well as in the selection of health centers to include in the sample.

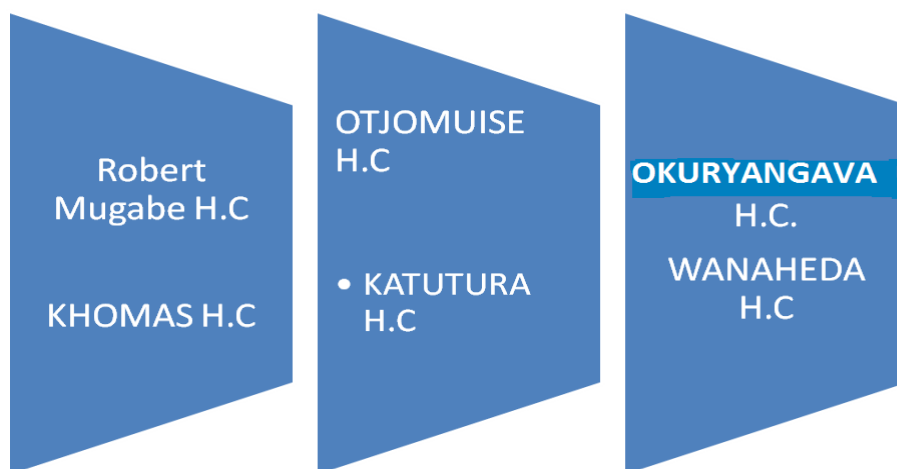
Simple random sample is the most common and the simplest of the sampling methods. In this method, the health centers were chosen with equal probability of selection. For this study the researcher used the technique of putting all the names of the eleven (11) health centers in a hat. From these eleven (11) health centers, ten (10) were from the state and one was from the private sector.

The selection of the appropriate number of health center names was blindly and randomly done by nurses working in different hospitals in Windhoek, Khomas region. Those chosen represented the health centers (Clinics) in Windhoek. The simple random sample has the advantages that it is easy to administer, is representative of the population in the long run, and the analysis of data using such a sampling is easy.

The selected Health centers are: Baumgartsbrunn, Donkerhoek, Dordabis, Groot-Aub, Hakahana, Khomasdal health Centre, Otjimuse, Robert Mugabe, Okuryangava, Wanaheda Clinics and Khomas health facilities. From the 11 health centers, six were sampled by means of simple random methods. (Brink, Van der Walt and Van Rensburg, 2006) are of the opinion that in simple random sampling participants or elements are drawn in a random way from the sampling frame. This process involved a one-stage selection process, each clinic had an equal chance of being drawn and the accessibility of the population was considered.

To select participants for the interviews, systematic sampling was partly done by approaching every third woman to be part of the study if she agrees. Systematic sampling involves selection of individuals at equal intervals (Brink et al., 2006). For this study every third woman was approached to be part of the study. Only those willing to participate were interviewed till the required sample of 236 respondents was attained. Figure 5 indicated the six (6) health centers that were selected to conduct the study.

**Figure 5: Six selected health centers**





The instrument used was a questionnaire with structured questions that were administered through face to face interview. This was chosen because a structured questionnaire formalizes all respondents in such a way that they hear the same questions in the same order and the same manner, and this was designed to explore the level of knowledge, attitudes, and practices (KAP) as factors that influence early detection of breast cancer among women in Windhoek, Khomas region.

This instrument was adopted from the previously existing instrument by Harutyunyan (1999) MPH student in Yerevan. During the construction and development stage, changes were made to suit the intended study. This process started from March and it ended on 30<sup>th</sup> April 2015, this process was completed in two months. During the same process consultations were made with experts in the field of research, those consulted were: one senior nurse in Ante-natal ward, and two lecturers from University of Namibia who reviewed and added some comments on the instrument and edited some grammar.

### **3.4 Inclusion criteria**

According to Burns and Groove (2009) inclusion criteria as these elements provide direction or comprise a list of the characteristics. In this study the sampling inclusion criteria upon which the selection of the respondents was based were; every third women approached to participate in the study until the samples of 236 respondents were attained. Women in the child bearing age 15-49 years attended the family planning clinics in Windhoek, Khomas region.

### **3.5 Exclusive criteria**

Exclusive criteria indicated respondents that do not adhere to the pretest requirements. (Robergs assessed 5/7/, 2016). Not all women qualify to participate, only those who attended one of the six (6) selected health centers, and only every 3<sup>rd</sup> women could participate.

### **3.6 Validity**

Validity refers to the degree to which the instrument measures what it is supposed to be measuring (Polit & Hungler, 2001, p. 308). The structured questionnaire contained questions relating to the important aspects covered in the literature review. In order to ensure validity, health professional supervisor in the ante-natal clinic and other researchers from local institutions like the University of Namibia and two surgeons from the department of surgery assisted in the review of the questionnaire, their opinions and suggestions were incorporated later in the final version of the questionnaire (Brink et al., 2006). The questionnaire was given to the researchers and came back with inputs and comments, to which changes were made accordingly. No check list was given and the final inputs and comments added value to the questionnaire.

For the purpose of this study, the researcher applied some types of validity into this study:

- Face validity: whereby opinions were based on intuitive judgments made by experts in the field. Thus the researcher found it useful in instrument development with regard to determine readability and clarity of content, because it was not a considered satisfactory alternative method due to its weakness.

- Content validity: is the assessment of how well the instrument represents all the components of the variable to be measured. The researcher made sure that all relevant components were included before the instrument was evaluated by the experts.
- Criterion- related validity: the establishment of a relationship between the scores on the instrument in question and other external criteria. This was made by comparing the instrument with the existing instrument which was also adopted for this study.

### **3.7 Reliability**

Reliability refers to the consistency, stability and repeatability of the informant accounts, as well as the researcher's ability to collect and record information accurately (Brink, Van deer Walt & Van Rensburg, 2006, p118). A pilot study was conducted in Katutura's Ante-Natal Clinic (ANC) before the actual study started as a means of determining the reliability of the instrument. It was conducted a week before the study was carried out. Ten women were selected from the target population, who were not included in the main study. A smaller number of women were chosen because they had similar characteristics to those of the target group of respondents (DeVos, Strydom, Fouche & Delpont, 2008).

Field workers were trained on how to carry out the data collection in the similar manner for the reliability of the tool, it also aimed to validate the field researcher's interviewing skills, knowledge and performance of the questions asked and communication skills. Based on the suggestions and errors identified, the researcher and the team assistants worked on the improvement of the questionnaire in terms of wording, numbering and coding.

### **3.8 Data collection procedure**

The permission to participate in the study was sought verbally and informed consent was obtained. Based on that, a structured interview schedule containing coded items in the form of closed-ended questions was administered to the 240 women. The collection procedure started in May 2015 and ends on the 31<sup>st</sup> of July 2015, and was completed in three month time.

Data were collected by a team of assistants, two enrolled nurses, two field workers who were trained prior to data collection, were all taken through the objectives of the study and the questionnaire before they were allowed to commence with data gathering. In addition, the assistants only helped the respondents to fill in the questionnaires under the supervision of the researcher who was always with them at the health centers. In this way, it was easy to answer and clarify questions raised by the respondents. The respondents who could not read or write in English and/who were unable to fill the questionnaires were assisted by the researcher and field workers to complete the questionnaires.

Being a full time employee, the researcher took leave to join and assist trained field workers. Data was collected only from Wednesday to Friday since these were the days to target the people who mainly visited the health centers (clinics) from 08h00 -14h30, since this was the time for ante-natal check-ups for expectant mothers. On completion, only 236 scripts were returned for data analysis, thus 4 scripts were regarded as spoiled. This instrument comprised four sections 1, 2, 3 and 4, with each section containing structured questions. See annexure A.

The questionnaire aimed to explore and describe the Knowledge, Attitudes and Practices (KAP) of early detection of breast cancer and to establish the influences on the correlation of

the determinant factors on early detection among women in Windhoek. Participants were asked questions of demographic nature as in section 1, while section 2 had questions about knowledge of early breast cancer detection, section 3 about the attitudes towards breast cancer early detection and section 4 about the practices of the screening methods for early detection (See annexure A). The tool mainly comprised of closed ended questions, guidelines and instructions were given on how to complete the questionnaire for the literate respondents.

### **3.9 Ethical considerations**

Brink, Van Der Walt & Van Rensburg (2006), Ethical standards for nurse researchers serve as a framework for the researchers conducting and participating in research. These standards also serves as criteria against which researchers, as advocates for their participants, can judge proposed research in which their participants will be study subjects, as well as to evaluate and account for the ethical standards in any research. These standards refer primarily to clinical research, but apply equally to all research and include the right and responsibilities of the role players in research.

According to Bankowski & Bernardelli (as cited in Health Methodology, 2011) the need for safeguards in human experimentation cannot be overemphasized, and several important codes have been developed or the protection of human subjects. The three underlying principles are:

1. beneficence, which requires that good should result, harm should be avoided, or that benefits should justify the expected risk or harm;
2. Respect for rights, including the free choice of the subject and protection for those of diminished autonomy;
- and 3 Justice which requires an equal distribution of burden and benefit.

In this study, the researcher took into consideration the participant's right to anonymity in the process of collecting data. The researcher made sure that informed consent was gained (Oliver, 2004). Permissions to undertake this study was sought from the University of Namibia through the Post Graduate Committee (PGC), The Ministry of Health and Social Services (MOHSS) and Khomas regional directorate, including the supervisors of the six sampled health centers (Clinics) and the participants. The purpose of the study was explained to all three groups including the individual participants before the interviews were conducted and questionnaires were administered.

During interviews, participants were kept at ease, and confidentiality and anonymity were ensured, since no information that would lead to the identification of the participants were required and questions were accompanied by numbers( i.e. 1 & 2) for anonymity reasons.

All rights were reserved in this study, no discrimination and harm were excised to the participants since the sampling measure were put in place during sampling process. Respect of all those participated were also maintained, participants were offered the opportunity to withdraw from the study at any time and were ensured of no ill effects. The participant's dignity and integrity were maintained through insuring that their privacy is preserved in any circumstances.

### **3.10 Summary**

This chapter described how the research was conducted. It covered the research design, population, sampling, research instrument, measures taken to ensure reliability and validity, data collection and ethical considerations. The structure of the questionnaire and the technique of collecting data were also explained.

## **CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION**

### **4.1. Introduction**

The previous chapter dealt with design and method on how the information was gathered. In this chapter the results and the discussions of the results of the study will be interpreted and discussed in relation to the research questions. The discussion emanate from the results of the study as they relate to the reviewed literature on Knowledge, attitudes and practices theories and other relevant empirical studies.

### **4.2. Results of the study**

As outlined in the methodology section, this study used a structured questionnaire as a research instrument to collect data from a group of respondents. The target population was women of child bearing age (15-49) who visited the sampled health care facilities for services such as family planning and ante-natal purposes. The intended target sample of 240 respondents was not reached, however a substantial number (236) of respondents were interviewed, which represents 98.3% response rate.

A questionnaire was used to collect the data through face to face interviews, where the researcher or an assistant interviewer presented the questions orally, especially to respondents who could not fill out questionnaires due to their inability to read and write or because they could not understand English.

However, some few questionnaires were self-administered by respondents who could read and write with understanding of English language. The interviewers were always closer to respondents in case of a need for clarity on some of the questions.

The assistant researchers were trained by the researcher herself on how to administer the questionnaire, to record the responses and the proper meaning of concepts in the local languages, for those respondents who could not understand English.

The interviews were conducted on a one to one basis between the interviewer and the respondent. Although it was within the reach of other patients, discussions between the interviewer and the interviewee could not be overhead by other patients. By administering the questionnaire this way, confidentiality and the cultural norms of the respondents were ensured and safe guarded to their satisfaction. Very few women declined to participate in the study but data collection continued until 240 questionnaires were administered. The questionnaire consisted of four sections (see Annexure A):

**Section 1:** Demographic information.

**Section 2:** Assessing the Knowledge of early detection of breast cancer.

**Section 3:** Assessing the Attitude of respondents towards early detection breast cancer.

**Section 4:** Assessing the Practice (utilization) of screening methods on early detection of breast cancer.

Closed ended questions were mainly used for easy responses but concise to the question posed. These closed questions were analyzed using the Statistical Package for Social Science (SPSS). Basic descriptive statistics, frequencies and percentages were performed, mainly on demographic variables. Inferential statistics were used to do correlations with age and



education. Pearson chi-square test was used to assess association or relationship, percentage scores between risk factor variables and demographic variables. Missing values were excluded from calculations of p-values. The researcher examined the knowledge, practices and attitudes of women on early detection of breast cancer to determine factors that might influence the screening. Variables considered for this analysis includes level of education, age categories, employment status, marital status and parity.

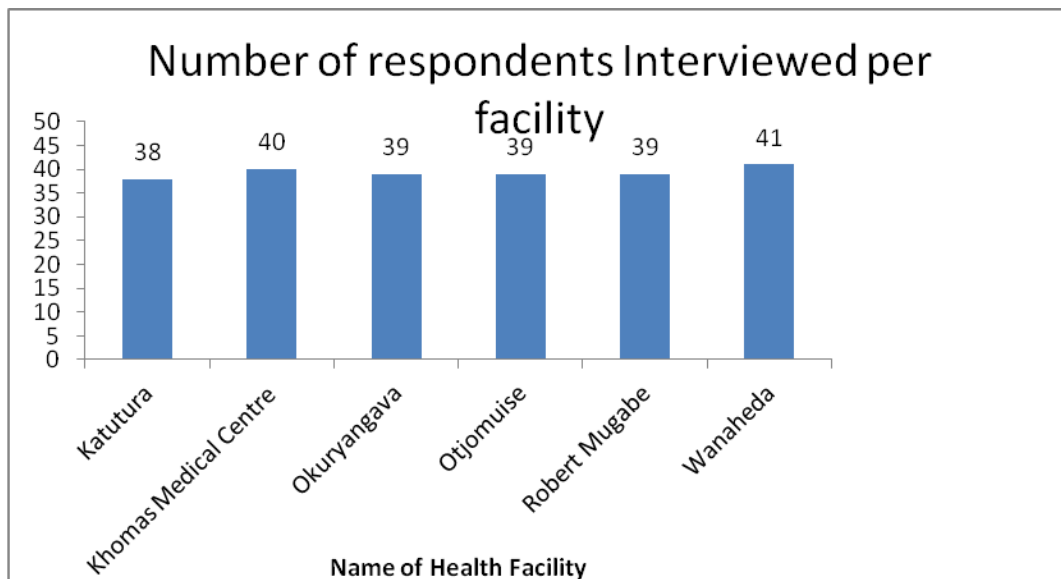
### 4.3. Presentation of the Results

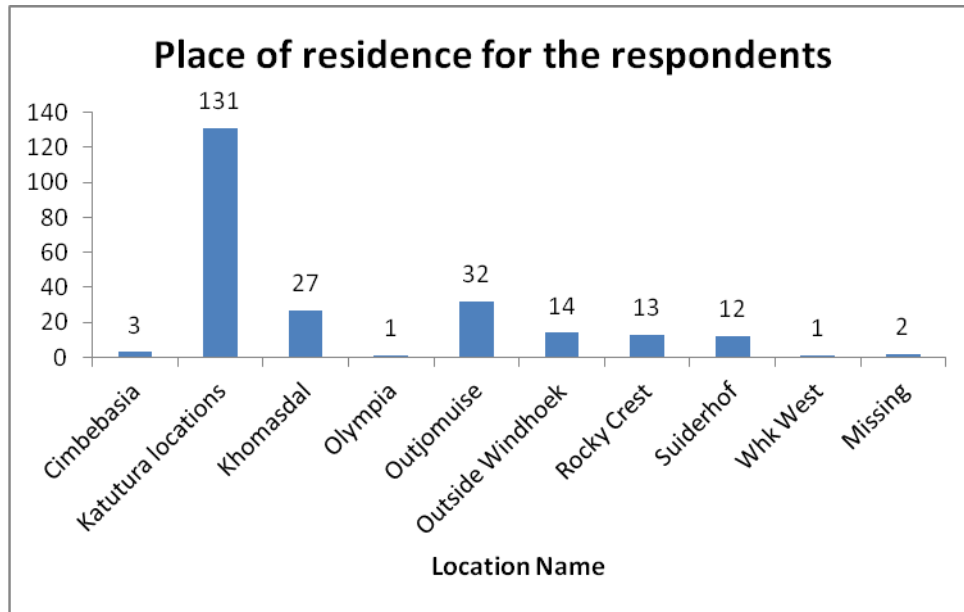
Research data in this study was grouped into three categories (as outlined above) to facilitate the interpretation and presentation of the findings. In this analysis, variables on Demographic information (*section 1*) were cross tabulated with Knowledge of breast cancer (*section 2*), Attitude (*section 3*) and Practice (*section 4*) as indicated in the table below.

### 4.4. Data analysis of questionnaire

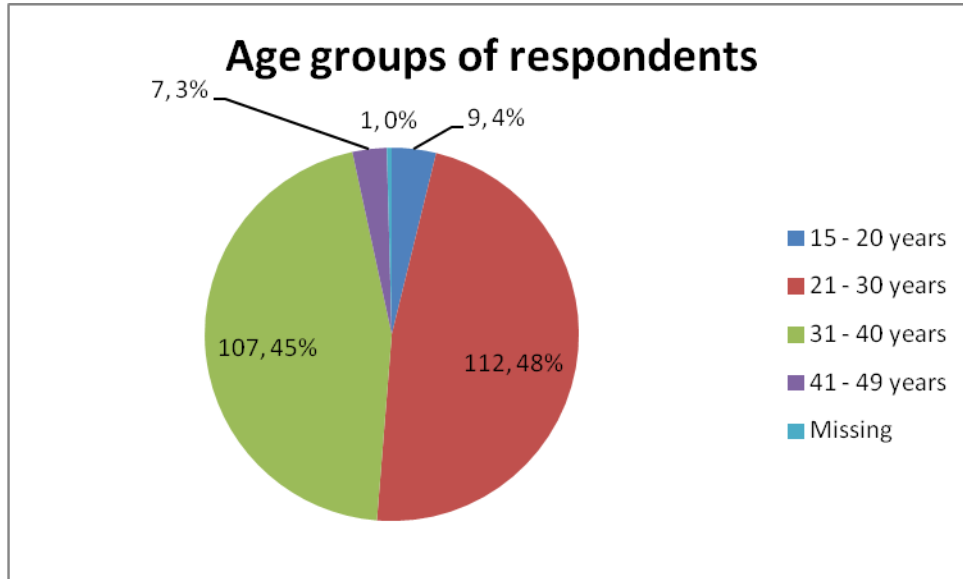
#### *Demographic information*

**Figure 6: Number of interviewees per health center**



**Figure 7: Residential location of the respondents**

The majority of the respondents reside in Katutura (55%) and its smaller surrounding locations. These smaller locations include Havana, Greenwell Matongo and Okuryangava. Very few respondents said they stay in Windhoek West, Olympia and Cimbebasia (n= 236). Katutura location indicates that there are many people from the research population residing in that location in comparison to other suburbs in the Windhoek district.

**Figure 8: Respondents' age groups**

The majority of the respondents were in the age group of 21-30 and 31 to 40 years, only one respondent did not state her age group. This could be because this age group is the highest peak of child bearing age of women, describing them as being sexually active, more likely to have exposure to hormones and to develop pre-cancerous signs. Traditionally, the assumption has been that this age group accesses the healthcare system more often in order to receive contraceptives and Ante- natal care. Most study respondents were from Katutura location where the majority of the region's population lives.

**Table 2: Marital Status and number of live children**

<b>Marital Status</b>	<b>Number of children</b>						<b>TOTAL</b>
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>more than 4</b>	
<b>Cohabiting</b>	0	4	37	9	0	0	<b>50</b>
<b>Married</b>	1	4	29	23	10	0	<b>67</b>
<b>Single</b>	6	51	42	10	3	3	<b>115</b>
<b>TOTAL</b>	<b>7</b>	<b>59</b>	<b>108</b>	<b>42</b>	<b>13</b>	<b>3</b>	<b>232</b>

*Data source: Own survey*

Majority of the respondents were single women, and the highest number of children per woman is 2. There were also a significant number of respondents who said they have 1 or 3 children. From Table 2 it was found that the majority of study respondents were single women (50 %, n = 236). The possible implication of this is that these women visited health centers for family planning purposes and ante-natal services.

**Table 3: Did you breast- fed by number of live children**

			Number of Children					Total
			0	1	2	3	4	
Did you breast Feed?	Yes	Count	0	29	57	30	12	128
		% within did you breast feed	0.0%	22.7%	44.5%	23.4%	9.4%	100.0%
		% within Number of children	0.0%	63.0%	66.3%	88.2%	92.3%	68.8%
		% of Total	0.0%	15.6%	30.6%	16.1%	6.5%	68.8%
	No	Count	7	17	29	4	1	58
		% within did you breast feed	12.1%	29.3%	50.0%	6.9%	1.7%	100.0%
		% within Number of children	100.0%	37.0%	33.7%	11.8%	7.7%	31.2%
		% of Total	3.8%	9.1%	15.6%	2.2%	.5%	31.2%
	Total	Count	7	46	86	34	13	186
% within did you breast feed		3.8%	24.7%	46.2%	18.3%	7.0%	100.0%	
% within Number of children		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
% of Total		3.8%	24.7%	46.2%	18.3%	7.0%	100.0%	

*Data source: Own survey*

*H<sub>0</sub>*: Among women who have knowledge about breast cancer there is an association between breast feeding and number of children given birth.

*H<sub>a</sub>*: Among women who have knowledge about breast cancer there is no an association between breast feeding and number of children given birth.

$\alpha = 0.05$

Pearson chi-square p-value = 0.000

Therefore, we fail to reject the *H<sub>0</sub>* and conclude that among women who had

Knowledge about breast cancer there was an association between breast feeding

And number of children gave birth.

Alpha is greater than significant level ( $0.005 > 0.000$ ).

**Table 4: Qualification and language spoken at home**

Home Language	Educational level					TOTAL
	No formal education	Primary education	Secondary education	Student / learner	Tertiary Education	
Afrikaans	0	1	16	0	13	30
Damara / Nama	0	2	21	1	3	27
Oshiwambo	3	12	64	1	12	92
Others	0	5	5	0	2	12
Otjiherero	1	4	37	1	9	52
Rukwangali	0	1	1	0	0	2
Silozi	0	0	7	0	11	18
TOTAL	4	25	151	3	50	233

*Data source: Own survey*

The table above shows that there were more respondents with at least secondary education and the majority of them are Oshiwambo speakers. Nearly two-thirds (64%) of the study respondents had secondary education (Table 4) which means that most respondents were literate and were able to read, understand and to act on information of prevention of breast cancer as it appeared in the mass media.

**Table 5: Denomination the respondent belongs to**

<b>Do you belong to any religion</b>	<b>Religion</b>					<b>TOTAL</b>
	<b>Anglican</b>	<b>Lutheran</b>	<b>Others</b>	<b>Roman Catholic</b>	<b>SDA</b>	
Yes	28	77	50	55	6	<b>216</b>
No	0	0	20	0	0	<b>20</b>
<b>TOTAL</b>	<b>28</b>	<b>77</b>	<b>70</b>	<b>55</b>	<b>6</b>	<b>236</b>

*Data source: Own survey*

The respondents religion is fairly allocated to Lutheran (Highest) and SDA (lowest). Nearly all the respondents (n = 236) were affiliated to some religious organization (Table 5). The majority of respondents were Lutherans (77), other religions (55), while the SDA (6) to mention a few. Dunn's et al. (2005) study found that churches have a strong social influence in their communities as they can facilitate access to information of cancer screening to the lay communities as they exist in practically every community and have the ability to influence the hardest to reach populations. Church members have the potential to receive lifesaving messages and to disseminate health information to others in the community who do not attend a particular faith in their community. The oral culture of disseminating health information is vital in decreasing the morbidity and mortality of this rural community.

**Table 6: Responses on employment status**

<b>Employment Status of the Respondents</b>	<b>Frequency</b>
<b>Employed</b>	95
<b>Self employed</b>	1
<b>Student</b>	13
<b>Unemployed</b>	122
<b>Missing</b>	5
<b>TOTAL</b>	<b>236</b>

*Data source: Own survey*

The majority of the women were unemployed (51%), and had formal employment (40%), while were self-employed (1%), were still students 5% and the rest were under other categories. Lockwood-Rayermann's (2004) study found that "economic circumstances (environmental resources) are vitally important factors in the health promotion of any community" (p.355).

Employment is expected to provide a source of income to the individual as well as an opportunity for access to the employer providing insurance coverage at either minimal or no expense to the employee (Gosschalk & Carrozza, 2009). Without employment most individuals have limited access to affordable insurance unless the person is a dependent child or married to an individual who has health insurance benefits.



Another aspect of income includes an individual's willingness to pay (for example transport) and the influence it has on her degree of risk behavior. It also explores the impact when a spending decision must be made in the midst of uncertainty. Given an option between meeting the basic needs of food and shelter versus preventive measures, it has often been presumed that the latter will be neglected without consideration to the long term impact on earnings and productivity.

Generally, the more affluent in the community, the better the level of health promotion of a community against breast cancer will be. Economic factors are important in health, for example there are poor communities which do not have money to pay for visits to doctors and to hospitals (Young et al., 2003, p. 25). Figure 4.5 indicates the employment status of respondents.

**Table 7: Medical health insurance covered with**

	Does Medical Aid covers breast cancer screening?			TOTAL
	n/a	No	Yes	
Covered by medical aid or medical insurance?	n/a	No	Yes	TOTAL
Yes	0	1	39	40
No	2	40	0	42
<b>TOTAL</b>	<b>2</b>	<b>41</b>	<b>39</b>	<b>82</b>

About 40% of the respondents are employed with only half of them having medical aid that covers breast cancer examination and screening. Table 7 shows that the majority of the study respondents were not members of a medical health insurance/medical aid scheme (39%), while only 40% were covered by a medical health insurance/medical aid scheme.

### Assessing the knowledge of early detection of breast cancer

**Table 8: Multiple responses on acquisition of facts concerning a breast cancer and the sources of information (Row %)**

What did you hear about breast cancer?	Radio	Newspaper	Clinic	Doctor	Friends	Family	Other sources	Total response
BC can be treated	30.8	23.1	30.8	0.0	7.7	7.7	0.0	100.0
BC can be treated if detected early	25.8	29.0	32.3	0.0	3.2	9.7	0.0	100.0
BC can kill	37.5	17.5	32.5	1.3	6.3	3.8	1.3	100.0
BC early detection is safe	15.0	20.0	50.0	5.0	5.0	5.0	0.0	100.0
BC screening	31.2	23.1	32.9	2.3	6.4	4.0	0.0	100.0
BC None selective disease	33.3	0.0	33.3	0.0	0.0	33.3	0.0	100.0
Death in family from BC	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Do self-examination regularly	36.8	15.8	42.1	0.0	5.3	0.0	0.0	100.0
Failing to breastfeed cause BC	28.6	14.3	28.6	0.0	28.6	0.0	0.0	100.0
Go for mammogram	33.3	33.3	33.3	0.0	0.0	0.0	0.0	100.0
Many women have breast cancer	30.0	10.0	30.0	0.0	20.0	10.0	0.0	100.0
No cure for BC	39.4	9.1	33.3	0.0	12.1	6.1	0.0	100.0
People are dying of BC	50.0	0.0	50.0	0.0	0.0	0.0	0.0	100.0
Screening after age 30 years	33.3	33.3	33.3	0.0	0.0	0.0	0.0	100.0
Self-examination is best	33.3	33.3	33.3	0.0	0.0	0.0	0.0	100.0
Suspect cancer go to hospital	66.7	0.0	33.3	0.0	0.0	0.0	0.0	100.0
Women to do BC screening at the hospitals	36.8	10.5	36.8	5.3	10.5	0.0	0.0	100.0
<b>Total</b>	<b>32.6</b>	<b>19.6</b>	<b>34.0</b>	<b>1.7</b>	<b>7.1</b>	<b>4.7</b>	<b>0.2</b>	<b>100.0</b>

The respondents' leading source of information on breast cancer come from health workers at clinics (34.9%), followed by radio, (32.6%), then families (4.7%), friends (7.1%) and newspapers (19.6%), while the role of doctors was very low (1.7%). The health workers and radio seem to be the main sources of information for breast cancer as indicated in table 4. This could be very useful sources of information dissemination for breast cancer screening purposes and other targeted intervention programmes for the nation.

The information that was shared by the health workers (clinics) was that if breast cancer is detected early enough, the patient stands a chance of being cured (50%), but if not detected early it can lead to death (50%). Through the radio, the information that was disseminated was any signs and symptoms related to cancer should be reported to the hospital (66.7%), and again emphasized that late detection could lead to death (50%). Different sources advocate about dangers of breast cancer, thus table 4 makes provision of what has been heard about the disease.

**Table 9: Regression coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.020	.009		2.172	.031
Genetic cause BC	.768	.034	.679	22.875	.000
Smoking cause BC	.589	.084	.205	7.030	.000
Life style cause BC	.663	.055	.435	12.129	.000
Food cause BC	.585	.063	.227	9.302	.000
No breastfeed cause BC	.595	.096	.147	6.204	.000
Stress cause BC	-.032	.081	-.016	-.399	.690
No exercises cause BC	-.419	.161	-.073	-2.612	.010
No child cause BC	-.226	.081	-.139	-2.783	.006
Late menopause cause BC	-.226	.105	-.078	-2.148	.033

a. Dependent Variable: Do you know causes of BC

Looking at the individual perceived cause' statistical significance, it can be deduced that only stress has a statistical significance level that was in the rejection region (greater than the alpha value) at 5% given confidence level, while the rest were found to be statistically significant (less than the p-value). Hypotheses below shows the above explanations

*Ho*: Most women think that breast cancer is caused by genetic hereditary?

*Ha*: Breast cancer is not caused by genetic hereditary

$\alpha = 0.05$

P-value = 0.000

$\alpha > p\text{-value}$  ( $0.05 > 0.000$ )

Therefore we fail to reject the null hypothesis and conclude that breast cancer is caused by genetic hereditary.

**Table 10: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936 <sup>a</sup>	.876	.871	.133

Regarding the statistical  $R^2$ , “it provides the estimate of the strength of the relationship between the model and the response variables”. For this study, it is interpreted as the percentage showing the effect of combined explanatory or independent variables towards the cause of the dependent variable, in this case the dependent variable being “causes of breast cancer”, for which the  $R^2$  was noted at 87.6%, *table 10*. Alternatively, it could also be explained how well the linear model fits a set of observations, in this case, how responses.

In support of not breast feeding being one of the causes of breast cancer, a Posed questions on whether women who had knowledge about breast cancer did breast feed in relation to the number of children born of them were cross tabulated as below. A further hypothesis was done to find out whether there was an association between

The study further attempted to get a feel of what respondents perceived or knew to be the causes of breast cancer among women of child bearing age.

The responses given in respect of cause of BC were “*i*) it’s a genetic disease, *ii*) smoking cigarettes, *iii*) type of life style, *iv*) type of food, *v*) women who never breast fed, *vi*) stress, *vii*) luck of exercises, *viii*) not to have conceived & born a child, *ix*) having late menopause”, were perceived as some of the main causes of breast cancer among women, and these are the two variables (having breast fed and number of children born of women).

**Table 11: Correlation of age Category with knowledge of Breast Cancer**

			Knowledge of BC		Total
			Yes	No	
Age Category	15 - 20 years	Count	5	4	9
		% within Age Category	55.6%	44.4%	100.0%
		% within Knowledge	2.7%	8.0%	3.8%
		% of Total	2.1%	1.7%	3.8%
	21 - 30 years	Count	87	25	112
		% within Age Category	77.7%	22.3%	100.0%
		% within Knowledge	46.8%	50.0%	47.5%
		% of Total	36.9%	10.6%	47.5%
	31 - 40 years	Count	87	21	108
		% within Age Category	80.6%	19.4%	100.0%
		% within Knowledge	46.8%	42.0%	45.8%
		% of Total	36.9%	8.9%	45.8%
	41 - 49 years	Count	7	0	7
		% within Age Category	100.0%	0.0%	100.0%
		% within Knowledge	3.8%	0.0%	3.0%
		% of Total	3.0%	0.0%	3.0%
Total		Count	186	50	236
		% within Age Category	78.8%	21.2%	100.0%
		% within Knowledge	100.0%	100.0%	100.0%
		% of Total	78.8%	21.2%	100.0%

*Data source: Own survey*

This study had a sample of 236 women of child bearing age (15-49). Out of the total interviewed women, 78 % said they had knowledge about breast cancer, while 21.2% had no

knowledge of breast cancer. Among those who said had knowledge of breast cancer, the age categories of 21-30 and 31-40 respectively had the highest number of women (46.8%) who had responded to have knowledge of breast cancer, while the age category 15-20 had the lowest responses (2.7%) of women with knowledge about the ailment?

The high percentage seen in the these age categories (21-30 and 31-40) could be the reason of being in the highest peak of child bearing age of women, describing them as being sexually active, more likely to have exposure to hormones and to develop pre-cancerous signs. Traditionally, the assumption has been that these age categories accesses the healthcare system more often in order to receive contraceptives and Ante-Natal Care as the researcher observed during data collection.

**Table 12: Correlation of highest level of education with knowledge of Breast Cancer**

			Knowledge of BC		Total
			Yes	No	
Highest level of Education	No formal education	Count	5	0	5
		% within Highest level of Education	100.0%	0.0%	100.0%
		% within Knowledge	2.7%	0.0%	2.1%
		% of Total	2.1%	0.0%	2.1%
	Primary education	Count	11	14	25
		% within Highest level of Education	44.0%	56.0%	100.0%
		% within Knowledge	5.9%	28.0%	10.6%
		% of Total	4.7%	5.9%	10.6%
	Secondary education	Count	120	33	153
		% within Highest level of Education	78.4%	21.6%	100.0%
		% within Knowledge	64.5%	66.0%	64.8%
		% of Total	50.8%	14.0%	64.8%
	Student / learner	Count	3	0	3
		% within Highest level of Education	100.0%	0.0%	100.0%
		% within Knowledge	1.6%	0.0%	1.3%
		% of Total	1.3%	0.0%	1.3%
Tertiary Education	Count	47	3	50	
	% within Highest level of Education	94.0%	6.0%	100.0%	
	% within Knowledge	25.3%	6.0%	21.2%	
	% of Total	19.9%	1.3%	21.2%	
Total	Count	186	50	236	
	% within Highest level of Education	78.8%	21.2%	100.0%	
	% within Knowledge	100.0%	100.0%	100.0%	
	% of Total	78.8%	21.2%	100.0%	

*Data source: Own survey*



On the question regarding knowledge about breast cancer, from a total of 236 interviewed women, 78% said yes as their responses and 21% said no. This variable was cross tabulated in order to determine the respondents' level of education against the knowledge of breast cancer. The highest number of 64.5% in the study were women with secondary education (see table 12), followed by those with tertiary education (25.3%). On the other hand, women with primary education had 5.9%, while women with no formal education had 2.7%.

This means that most respondents were literate and able to read and write with regard to this study, they could understand and act on information of breast cancer prevention as appearing on pamphlets, billboards as well as mass media.

**Table 13: Correlation of employment status with knowledge of cancer**

			Knowledge of BC		Total
			Yes	No	
Employment status	Employed	Count	83	15	98
		% Employed	84.7%	15.3%	100.0%
		% within Knowledge	44.6%	30.0%	41.5%
		% of Total	35.2%	6.4%	41.5%
	Self employed	Count	1	0	1
		% Self-employed	100.0%	0.0%	100.0%
		% within Knowledge	.5%	0.0%	.4%
		% of Total	.4%	0.0%	.4%
	Student	Count	11	2	13
		% Students	84.6%	15.4%	100.0%
		% within Knowledge	5.9%	4.0%	5.5%
		% of Total	4.7%	.8%	5.5%
	Unemployed	Count	91	33	124
		% Unemployed	73.4%	26.6%	100.0%
		% within Knowledge	48.9%	66.0%	52.5%
		% of Total	38.6%	14.0%	52.5%
Total		Count	186	50	236
		% within Employment Status	78.8%	21.2%	100.0%
		% within Knowledge	100.0%	100.0%	100.0%
		% of Total	78.8%	21.2%	100.0%

*Data source: Own survey*

Out of 186 respondents who indicated to have knowledge about breast cancer, it was necessary to also find out about their employment status with regard to the phenomena under study. The question of employment status and knowledge of breast cancer among women was cross tabulated to see whether there is an association between employment status and knowledge of

breast cancer. It was observed that unemployed women had more knowledge (48.9%) about breast cancer, when associating the source of information being the radio, unemployed spend time listening to radios such information should have been heard there. Followed by employed women with 44.6%.

### **Assessing the attitudes of respondents towards early detection of**

#### **Breast cancer**

Beliefs and misconception varies with several factors, such as ethnicity, age, education and socio-economic status. Religion and culture are two important factors that also should count for different attitudes, but no study was found to explain the variation of attitude for religious and cultural diversity (Sariego, Matsumoto, Vosburgh& Kerstein, 1992).

It has been documented that younger women shows more positive attitude towards health education about breast cancer and early screening. Table 5 depicts some responses upon hearing breast cancer results after screening or testing.

**Table 14: Multiple responses on the attitude/ reaction upon hearing of breast cancer**

Attitude	Yes		No		Total
	Nr.	%	Nr.	%	
Scared/fear	163	87.6	23	12.4	186
Consult Doctor	172	92.5	14	7.5	186
Traditional Medicine	17	9.1	169	90.9	186
Prayer house (Church)	2	1.1	184	98.9	186

*Data source: Own survey*

The total number of 186 respondents who had knowledge about breast cancer and were also asked on their reaction upon hearing their diagnosis results about breast cancer.

The following were yes responses, where 92.5% responded that they would consult a Doctor, while 87.6% would be scared about the disease. Few positive (yes) responses were seen among women who wished to see the traditional healers as well as those who wished to visit the prayer house (9.1% and 1.1%) respectively. The opposite is also true, where about 98.9% said they would not prefer to go to the prayer house once detected with breast cancer, while 90.9% would not consult the traditional healers. This can be concluded that many women with knowledge about breast cancer would consult the doctor and be scared about the disease.

To attest to the above mentioned findings, other researchers like (Sariego, Matsumoto, Vosburgh & Kerstein, 1992) in Bangladesh revealed similar results. Bangladesh still has lots of misconception and disbelieve regarding cancer.

Most of the people believe that cancer is non treatable disease. There is not much they can do to prevent it and hence death. Most of them are afraid or scared of cancer. This misconceptions and disbelieves leads them not to consult doctors. That could be the reasons as to why many women continue to present themselves to the hospitals when the disease is in its advanced stages.

Assessing the practice (utilization) of screening methods on early detection of breast cancer.

The American Cancer Society guidelines for early breast cancer detection clearly state that even a woman at average risk for breast cancer should be told about the benefits of screening methods (BSE, CBE and Mammogram). Women who choose to do BSE should receive instruction by a health professional, for which it showed a low levels of BSE due to lack of

instructions on how to go about doing it. This was found to be the case among women in developed nations. This study asked respondents whether they had done breast self-examination by their age categories. Table 15 below depicts what has been found in this study.

**Table 15: Women who had knowledge about BC and Self-examination by education and practice**

			Ever done BSE?		Total
			Yes	No	
Highest level of Education	Primary education	Count	5	4	9
		% within highest level of Education	55.6%	44.4%	100.0%
		% within Ever done breast Self-exam	6.3%	6.5%	6.4%
		% of Total	3.5%	2.8%	6.4%
	Secondary education	Count	50	40	90
		% within highest level of Education	55.6%	44.4%	100.0%
		% within Ever done breast Self-exam	63.3%	64.5%	63.8%
		% of Total	35.5%	28.4%	63.8%
	Student / learner	Count	1	0	1
		% within highest level of Education	100.0%	0.0%	100.0%
		% within Ever done breast Self-exam	1.3%	0.0%	.7%
		% of Total	.7%	0.0%	.7%
	Tertiary Education	Count	23	18	41
		% within highest level of Education	56.1%	43.9%	100.0%
		% within Ever done breast Self-exam	29.1%	29.0%	29.1%
		% of Total	16.3%	12.8%	29.1%
Total	Count	79	62	141	
	% within highest level of Education	56.0%	44.0%	100.0%	
	% within Ever done breast Self-exam	100.0%	100.0%	100.0%	
	% of Total	56.0%	44.0%	100.0%	

*Data source: Own survey*

Out of 186 women who responded that they had knowledge about breast cancer, a further question was posed to them in order to see their attitude towards putting into practice what they knew, that was Breast Self-Examination (BSE).

Among the total (186) respondents who had knowledge of breast cancer, 141 had also indicated that they had heard about BSE. Table 6 shows that 56% of respondents claimed to have had BSE, while 44% said did not practice it.

Across all educational levels, the attitude of respondents towards BSE showed to be above 55%, which is a positive attitude towards self-screening. Within those who said they did BSE, 63.3% had secondary education, while 29.1% had tertiary education. Those with primary education and student/ learner had 6.3 and 1.3% respectively. The same scenario was observed with respondents who had not done BSE. This does not mean that women with primary education have negative attitude towards self-screening due to the fact that our sample was not representative on educational levels, therefore can only mention what has been noticed.

**Table 16: Correlation of being covered by medical aid or medical aid or medical insurance & utilization of mammogram**

			Mammogram method		Total
			Yes	No	
Covered by medical aid or medical insurance	Yes	Count	38	4	42
		% within medical insurance	90.5%	9.5%	100.0%
		% within Mammogram method	39.2%	8.9%	29.6%
		% of Total	26.8%	2.8%	29.6%
	No	Count	59	41	100
		% within medical insurance	59.0%	41.0%	100.0%
		% within Mammogram method	60.8%	91.1%	70.4%
		% of Total	41.5%	28.9%	70.4%
<b>Total</b>		Count	97	45	142
		% within medical insurance	68.3%	31.7%	100.0%
		% within Mammogram method	100.0%	100.0%	100.0%
		% of Total	68.3%	31.7%	100.0%

*Data source: Own survey*

Table 16 illustrates the number of women who had knowledge about breast cancer and had heard about mammogram screening method. If covered by medical insurance “yes” and those without medical insurance “no” to see whether medical insurance can influence the practice of the screening methods. It is observed that 90.5% of women were recorded to be covered by medical insurance and practiced mammogram, while 9.5 % reported to be covered and yet did not practice mammogram.

Among 100 women who said were not covered by medical insurance, 59.0% did practice mammogram, while 41.0% did not practice mammogram. Out a total of 97 women who practiced mammogram, 39.2% had medical insurance, 60.8% had no medical insurance. Among women (45) who did not practice mammogram, 8.9% had medical insurance, while 91.1% did not have insurance. One can deduce that there is an association between economic status of women and practicing of mammogram method. Factors such as Knowledge, Attitudes and Practices still playing a major role on how women perceives issues pertaining their health regardless of being covered by medical insurance or not covered. Gosschalk and Carrozza, (2009) are of the opinion that women without health insurances are less likely to have mammogram screening method. Those covered by a medical health insurance/medical aid scheme are aware that these schemes financed the screening of both breast and cervical cancer. Lockwood-Rayermann (2004); Abraido- Lanza, Chao and Gammon (2004); Rodriques, Ward, Perez-Stable (2005); and Gosschalk and Carozza (2009) are all of the opinion that having an insurance provider will generally provide a female with a payment source for screening either as a result of mandate or because of such screening being a covered service on the plan, resulting in increased levels of screening. Without insurance coverage an individual's ability to afford care is greatly dependent on her income and access to community or public health services.



**Table 17: Correlation of employment Status with the utilization of mammogram**

			Mammogram method		Total
			Yes	No	
Employment Status	Employed	Count	50	10	60
		% within Employment Status	83.3%	16.7%	100.0%
		% within Mammogram method	51.5%	22.2%	42.3%
		% of Total	35.2%	7.0%	42.3%
	Student	Count	5	1	6
		% within Employment Status	83.3%	16.7%	100.0%
		% within Mammogram method	5.2%	2.2%	4.2%
		% of Total	3.5%	.7%	4.2%
	Unemployed	Count	42	34	76
		% within Employment Status	55.3%	44.7%	100.0%
		% within Mammogram method	43.3%	75.6%	53.5%
		% of Total	29.6%	23.9%	53.5%
Total	Count	97	45	142	
	% within Employment Status	68.3%	31.7%	100.0%	
	% within Mammogram method	100.0%	100.0%	100.0%	
	% of Total	68.3%	31.7%	100.0%	

*Data source: Own survey*

Table 17 explains the association of women undergone mammogram examination/ screening methods in relation to their employment status.

Among the employed women and student/ learners, about 83.3% each reported to have undergone mammogram examination/screening methods, while 16.7% had reported not to have undergone the mammogram screening method respectively. The unemployed women who said they undergone mammogram screening was about 55.3% compared to 44.7% of those who said they do not practice. Within the women who undergone mammogram screening methods, 51.5% were employed, while 43.3% were unemployed. The least number (5.2%) of those who practiced was among the students (scholars). To see the association between employment status and practicing mammogram, the study revealed that more women (75.6%) who were unemployed didn't practice mammogram, followed by those who were employed (22.2%). This confirms that economic status plays an important role in the health sector, "Economic factors are important in health, for example there are poor communities which do not have money to pay for visits to doctors and to hospitals" (Young, van Niekerk & Mogotlane, 2003, p. 25).

**Table 18: Correlation of Age Category with the utilization of Mammogram**

			Mammogram method		Total
			Yes	No	
Age Category	15 - 20 years	Count	2	0	2
		% within Age Category	100.0 %	0.0%	100.0 %
		% within Mammogram method	2.1%	0.0%	1.4%
		% of Total	1.4%	0.0%	1.4%
	21 - 30 years	Count	44	17	61
		% within Age Category	72.1%	27.9%	100.0 %
		% within Mammogram method	45.4%	37.8%	43.0%
		% of Total	31.0%	12.0%	43.0%
	31 - 40 years	Count	47	26	73
		% within Age Category	64.4%	35.6%	100.0 %
		% within Mammogram method	48.5%	57.8%	51.4%
		% of Total	33.1%	18.3%	51.4%
	41 - 49 years	Count	4	2	6
		% within Age Category	66.7%	33.3%	100.0 %
		% within Mammogram method	4.1%	4.4%	4.2%
		% of Total	2.8%	1.4%	4.2%
Total	Count	97	45	142	
	% within Age Category	68.3%	31.7%	100.0 %	
	% within Mammogram method	100.0 %	100.0%	100.0 %	
	% of Total	68.3%	31.7%	100.0 %	

*Data source: Own survey*

Age category was considered an important aspect among women who undergone mammogram screening method, hence the need to see which category had more women. The age categories of 21-30 and 41-49 recorded the highest percentages (72.1% and 66.7%) respectively of women who undergone mammogram screening method, while some women

(27.9 and 33.3%) within those age categories reported not to undergone mammogram screening method. Amongst women who said they undergone mammogram screening method, 48.5% were from the age category 31-40, while 45.4% were in the age category 21-30. The age categories 31-40 and 21-30 revealed substantial percentages (57.8 and 37.8%) respectively of women who did not undergo mammogram screening method. respectively. Lee (2010) in his study revealed similarities, with women aged 65 years being less likely to undergo breast screening compared with those in the reference category (40-49 years).

**Table 19: Correlation of Age Category by Clinical Breast Examination**

			CBE method		Total
			Yes	No	
Age Category	15 - 20 years	Count	2	0	2
		% within Age Category	100.0%	0.0%	100.0%
		% within CBE method	5.1%	0.0%	1.4%
		% of Total	1.4%	0.0%	1.4%
	21 - 30 years	Count	20	41	61
		% within Age Category	32.8%	67.2%	100.0%
		% within CBE method	51.3%	39.8%	43.0%
		% of Total	14.1%	28.9%	43.0%
	31 - 40 years	Count	16	57	73
		% within Age Category	21.9%	78.1%	100.0%
		% within CBE method	41.0%	55.3%	51.4%
		% of Total	11.3%	40.1%	51.4%
	41 - 49 years	Count	1	5	6
		% within Age Category	16.7%	83.3%	100.0%
		% within CBE method	2.6%	4.9%	4.2%
		% of Total	.7%	3.5%	4.2%
Total	Count	39	103	142	
	% within Age Category	27.5%	72.5%	100.0%	
	% within CBE method	100.0%	100.0%	100.0%	
	% of Total	27.5%	72.5%	100.0%	

*Data source: Own survey*

The use of Clinical Breast Examination was very low among respondents as only a small fraction (27.5%) visited health facilities/ doctor for breast examination, while 72.5% represent

the women who did not seek any medical examination or who did not visit the doctor for any clinical breast examination. With regards to the age categories 21-30, this was the percentage of women (32.8%) who visited the health facilities for CBE, while in the same age category 67.2% did not practice CBE. In the age category of 31-40 many women (55.3%) did not practice CBE as observed, while fewer women (41.0%) visited the health facilities for CBE (see table 19). The lowest responses were seen among the age category of 15-20, which was not in the recommended (teenage group) guideline for screening.

**Table 20: Correlation of employment Status by Clinical Breast examination**

			CBE method		Total
			Yes	No	
Employment Status	Employed	Count	22	38	60
		% within Employment Status	36.7%	63.3%	100.0%
		% within CBE method	56.4%	36.9%	42.3%
		% of Total	15.5%	26.8%	42.3%
	Student	Count	6	0	6
		% within Employment Status	100.0%	0.0%	100.0%
		% within CBE method	15.4%	0.0%	4.2%
		% of Total	4.2%	0.0%	4.2%
	Unemployed	Count	11	65	76
		% within Employment Status	14.5%	85.5%	100.0%
		% within CBE method	28.2%	63.1%	53.5%
		% of Total	7.7%	45.8%	53.5%
Total		Count	39	103	142
		% within Employment Status	27.5%	72.5%	100.0%
		% within CBE method	100.0%	100.0%	100.0%
		% of Total	27.5%	72.5%	100.0%

*Data source: Own survey*

The use of Clinical Breast Examination (CBE) was low among respondents with a total of 27.5% indicating “yes” to the practice of CBE, while 72.5% indicated “no” to this practice. With regards to employment status, it was revealed that women who were employed (36.7%) had practiced the clinical breast examination, while 63.3% did not practice Clinical Breast Examination. Among the unemployed women it was observed that 63.1% did not practice Clinical Breast Examination, while only 28.2% practiced clinical breast examination.

Lockwood-Rayermann’s (2004) study indicated that “economic circumstances (environmental resources) are vitally important factors in the health promotion of any community” (p.355). Employment is expected to provide a source of income to the individual as well as an opportunity for access to the employer providing insurance coverage at either minimal or no expense to the employee (Gosschalk & Carrozza, 2009). Without employment most individuals have limited access to affordable insurance unless the person is a dependent child or married to an individual who has health insurance benefits.

Another aspect of income includes an individual’s willingness to pay (for example transport) and the influence it has on her degree of risk behavior. It also explores the impact when a spending decision must be made in the midst of uncertainty. Given an option between meeting the basic needs of food and shelter versus preventive measures, it has often been presumed that the latter will be neglected without consideration to the long term impact on earnings and productivity (Gosschalk & Carrozza, 2009).

**Table 21: Women who have knowledge and have heard about BSE by age category and ever done BSE**

			Ever done breast self-exam?		Total
			Yes	No	
Age category	15 - 20 years	Count	0	2	2
		% within Age category	0.0%	100.0%	100.0%
		% within breast self-exam	0.0%	3.2%	1.4%
		% of Total	0.0%	1.4%	1.4%
	21 - 30 years	Count	38	23	61
		% within Age category	62.3%	37.7%	100.0%
		% within breast self-exam	48.1%	37.1%	43.3%
		% of Total	27.0%	16.3%	43.3%
	31 - 40 years	Count	38	34	72
		% within Age category	52.8%	47.2%	100.0%
		% within breast self-exam	48.1%	54.8%	51.1%
		% of Total	27.0%	24.1%	51.1%
	41 - 49 years	Count	3	3	6
		% within Age category	50.0%	50.0%	100.0%
		% within breast self-exam	3.8%	4.8%	4.3%
		% of Total	2.1%	2.1%	4.3%
Total	Count	79	62	141	
	% within Age category	56.0%	44.0%	100.0%	
	% within breast self-exam	100.0%	100.0%	100.0%	
	% of Total	56.0%	44.0%	100.0%	

*Data source: Own survey*

Out of 186 women with knowledge about breast cancer, 56.0% of women indicated that they practice Breast Self-Examination and 44.0% denied having ever done BSE.

Among these women in the age categories of 20-30 and 31-40, about 48.1% and respectively practiced BSE. Poor performance was observed among the age category of 40-49 years where only 3.8% practiced BSE and in the 15-20 years age category none practiced BSE. There was a statistically significant relationship between age group and the practice of BSE. BSE is a formalized practice that a woman is taught to examine their own breast regularly (usually monthly after 20 years of age), Semiglazov, Moiseyenko & Manikhas, 1999.

Older women were probably of the opinion that having led a disease free life, they were unlikely to get the disease, and were therefore complacent and perhaps disinterested in acquiring information about breast cancer. This could also be due to inadequate perception in this group of women. This finding was similarly seen in two Jordanian studies, one conducted by Petro-Nustus et al at the Hashemite University and published in the July 2002 issue of the Public Health Nursing Journal and another by Madanat and coworkers, published in the Cancer Journal August 2002. On contrary, Javandi et al at the Iranian Centre for Breast Cancer found that older women were more knowledgeable and performed BSE more frequently as opposed to young women.



**Table 22: Women who have done BSE by education and the frequency of doing it**

			How often is BSE done?			Total
			Annually	Once a month	Once every six months	
Highest level of Education	Primary education	Count	0	5	0	5
		% within Educational level	0.0%	100.0%	0.0%	100.0%
		% within How often is BSE done?	0.0%	7.2%	0.0%	6.3%
		% of Total	0.0%	6.3%	0.0%	6.3%
	Secondary education	Count	4	44	2	50
		% within Educational level	8.0%	88.0%	4.0%	100.0%
		% within How often is BSE done?	57.1%	63.8%	66.7%	63.3%
		% of Total	5.1%	55.7%	2.5%	63.3%
	Student / learner	Count	0	1	0	1
		% within Educational level	0.0%	100.0%	0.0%	100.0%
		% within How often is BSE done?	0.0%	1.4%	0.0%	1.3%
		% of Total	0.0%	1.3%	0.0%	1.3%
	Tertiary Education	Count	3	19	1	23
		% within Educational level	13.0%	82.6%	4.3%	100.0%
		% within How often is BSE done?	42.9%	27.5%	33.3%	29.1%
		% of Total	3.8%	24.1%	1.3%	29.1%
Total		Count	7	69	3	79
		% within Educational level	8.9%	87.3%	3.8%	100.0%
		% within How often is BSE done?	100.0%	100.0%	100.0%	100.0%
		% of Total	8.9%	87.3%	3.8%	100.0%

Data source: Own survey

As indicated that among the 186 women with knowledge of breast cancer, and those who had ever practiced the Breast Self-Examination, about 87.3% of women responded that they did BSE once a month, while 8.9% claimed to have examined their breasts on an annual basis and 3.8% claimed to examine their breasts once every six months.

When cross tabulated with educational level, the study found that women who had attained secondary level (66%) did the examination after every six month, while women who had attained tertiary level (42.9%) did their breast examination annually. Poor examinations of BSE were only seen among the women who had primary level (7.2%) and students (1.4%) respectively.

Petro-Nustus and Haji Mahmoodi found that more women with the highest educational level practiced Breast Self-Examination than women with lower levels of education (primary level).

#### **4.5. Study Findings and Discussion**

This study was conducted to explore the knowledge, attitudes and practices of women with regards to early detection of breast cancer through the use of various screening methods. In this study Knowledge, Attitudes and Practices (KAP) were considered factors influencing early detection of breast cancer and breast cancer was shown to be a cancer affecting women in Namibia. The problems mentioned by respondents were late presentation of women with breast cancer to the hospitals which can be associated to KAP. The other problem was the gap which exists between dissemination of information and knowledge about prevention and early detection of this condition.

The importance of the national campaigns on early detection of breast cancer awareness and the benefits of screening services were advised, in order to combat the scourge of breast cancer.

The findings of this study revealed that the majority of women (respondents) had knowledge of breast cancer (78%), while 21% represented women who said they did not have any knowledge of breast cancer.

Thus, the study can conclude that most women have knowledge about breast cancer, but that attitudes and practices contribute to the alarming rate of breast cancer.

Variables such as Age, employment status, Educational levels and marital status were cross tabulated in this study to estimate their association and comprehensive meaning with breast cancer. The study revealed that among the women interviewed with knowledge on breast cancer, 64.5% had completed secondary education level and were more knowledgeable, while 29.5% of those women had attained tertiary level education. More knowledge on breast cancer was observed among the age categories of 21-30 and 31-40 with 46.8%.

Furthermore, the study revealed that the most favored source of information regarding the knowledge of breast cancer among women in Namibia were Health professionals (34%) which are the role played by the clinics followed by Television (TV) and radio media (32.7%) in disseminating this information (see table 18). This finding clearly indicates the role in advocacy of using the mass media in spreading awareness. An unanticipated finding however was that doctors were a relatively poor source of information accounting for only (1.7%) of the group. This is a significant finding since living in an urban city where health care facilities

are readily available and widely accessible, doctors in Namibia are falling short of providing basic timely information to their patients about breast cancer and its screening, especially to those women who need it the most. As it is a well-known fact that urban women have a much higher likelihood of acquiring this disease as opposed to women hailing from a rural background.

On the matters of attitude, there are still women with the mentality of consulting traditional healers for some signs of breast cancer.

Others believed breast cancer is not curable and that once a person is diagnosed, such a person dies in less than five year. Consequently women in Namibia appeared at the hospital with their breast cancer being in the advanced stage. Attitudes and practices among women towards breast cancer early detection are worrisome especially considering the fact that the role of the doctor in disseminating this information proved to be poor.

Women need to hear such information as they attend to their regular visitation for ante natal and family planning services. Some researchers (Sariego, Matsumoto, Vosburgh& Kerstein, 1992) argue that although young women showed a positive attitude towards breast cancer, the country still faced with a lot of misconception regarding breast cancer. Most people believe that breast cancer is a non-treatable disease and that there is no cure. This misconception led women not to consult the doctors, and only present themselves at the very advanced stages of breast cancer. In this study 92.5% of women preferred to consult doctors while 9.1% have the misconception seen in other studies of consulting traditional healers.

With regards to the screening practices, women with knowledge of breast cancer (78.8%) and those without knowledge (21%) were interviewed on the practice methods. About 87.3% of women responded that they did BSE once a month, while 8.9% claimed to have examined their breasts on an annual basis and 3.8% claimed to examine their breasts once every six months. When cross tabulated with educational level, the study found that women who had attained secondary level (66%) did the examination after every six month, while women who had attained tertiary level (42.9%) did their breast examination annually. Poor examinations of BSE were only seen among the women who had primary level (7.2%) and students (1.4%) respectively. This could also be due to inadequate perception in this group of women.

The responses from women attended secondary education indicates that their literacy and ability to read, understand and to act on information of health promotion and prevention of breast cancer appearing on the mass media. Studies by Lockwood-Rayermann (2004, p. 355) and Lee (2000) have reported that the level of education is a contributing factor to a woman's ability to understand the importance of healthcare, the diagnosis of breast cancer and the benefits of screening. Generally, the better educated a woman is, the healthier she is likely to be. The better the education, the more likely the women is to adopt healthy behaviours and healthy lifestyles.

The use of Clinical Breast Examination was very low among respondents as only a small fraction (27.5%) visited the health facilities (doctor) for breast examination and 72.5% were the women who did not seek any medical attention or visit the doctor for any clinical breast examination. With regards to the age categories 21-30, this was the percentage of women (32.8%) who visited the health facilities for CBE, while in the same age category 67.2% did

not practice CBE. In the age category of 31-40 many women (55.3%) did not practice CBE as observed, while fewer women (41.0%) visited the health facilities for CBE, (see table 12). The lowest responses were seen among the age category 15-20, which was not in the recommended guideline for screening.

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68.3% of women interviewed had practiced mammogram examination whereas 31.7% of women did not practice mammogram examination. With regards to the medical insurance cover, 90.5% were reported to be covered and could use their medical insurance for screening purposes. On the other hand 59.0% had no medical insurance cover and could only access these services from the public hospitals. The employed women 51.5% had practiced the mammogram screening; these women were covered by medical insurance and qualified to access screening services. On the other hand 22.2% of respondents did not practice the mammogram screening even though they were employed.

Among the unemployed, 53.3% of women practiced the mammogram screening while 75.6% did not practice the screening methods at all, hence not as many women 75.6% acknowledged the beneficial effects of a mammogram screening as an early detection method (Table 11).

This could be due in part to the fact that this screening modality was beyond the reach of a lot of the women since a significant amount of them were economically disadvantaged.

Generally, “the more affluent in the community, the better the level of health promotion of a community against breast cancer will be. Economic factors are important in health, for example there are poor communities which do not have money to pay for visits to doctors and to hospitals” (Young, van Niekerk & Mogotlane, 2003, p. 25).

#### **4.6. Summary**

This chapter presented a descriptive synopsis of the results obtained from interviews and questionnaires which explore the Knowledge, Attitudes and Practices (KAP) as factors that influencing early detection of breast cancer. It provided frequencies percentages on the demographic variables of knowledge of breast cancer. Pearson chi-square test was used to assess association or relationship, percentage scores between risk factor variables and demographic variables. Finally, responses from closed questions were analyzed using the Statistical Package for Social Science (SPSS) with questions posed to women, enriched data obtained from the data collected through structured questionnaires.

The next chapter deals with the limitations, recommendations and the conclusion of the research results.

## **CHAPTER FIVE: LIMITATIONS, RECOMMENDATIONS AND CONCLUSIONS**

### **5.1. Introduction**

In this chapter the conclusions, recommendations and limitations will be discussed. The conclusions will be formulated according to the objectives of the study. The purpose of this study was to explore and describe the Knowledge, Attitudes and Practices (KAP) on early detection of breast cancer and to establish the influences on the correlation of the determinant factors on early detection among women in the Windhoek, Khomas Region.

### **5.2. Limitation of the study**

The main limitation of the study was that the sample size was too small, because of time and financial constraints. Other limitation noted was the nature of the questionnaire which included skipping patterns, selective refusals to certain questions and few missing values. Different sample sizes were used for the analysis of variables, and this also reduced the power of the analysis performed. The sampling methods used, also limit the study only to women in the Windhoek district. Thus made it impossible to generalize the results of the investigation to the whole female population in Namibia, especially to those living in remote and rural places, where breast cancer screening behaviors are supposed to be different from those in large urban areas.

It can also be noted that a larger set of variables was included in the questionnaire, and they were mostly of a general nature, providing the understanding of the associations found for



various practices, which is superficial to some extent. The main purpose of this study was to have a general picture of knowledge, attitudes and practice patterns among women in Windhoek, Khomas Region.

Though in a cross-sectional survey the risk factors and outcome are measured simultaneously, it was difficult to determine whether the exposure preceded or followed the disease. However, the need for a more specific targeted survey, which would go more in depth and analyze any of the sub-topics defined in the current study, should be considered.

### **5.3. Recommendations**

Even though the study findings revealed that the majority of women in Namibia to have a sound knowledge of breast cancer there are still some negative attitudes towards the screenings and practices. Therefore, the study recommends that, the Ministry of Health and Social Services in collaboration with the Cancer Association of Namibia with various stakeholders should develop some strategies on how to address the issues of early detection of breast cancer among women in Namibia. More emphasis should be placed on health care providers including the doctors in educating women whenever visiting health facilities for matters concerning reproductive system. The role of healthcare providers is vital; hence both state and private doctors should educate women and stick to the National guideline on the screening women for early detection. Some studies have shown that women are more likely to adhere if the doctors recommend screening.

At the National level the integration of various reproductive health services is generally the best way to meet the challenges of the preventable diseases such as breast cancer and

screening. This could however be strengthened through the in reach methods providing more services to individuals who already make use of health facilities, in other ways by using simple screening instruments to produce changes in the knowledge, behavior of clients and that of providers.

The study also recommends continuous efforts in improving breast cancer screening in Namibia; this could only be achieved by promoting exchange of experience activities through the networking with other Non-Governmental Organization, stakeholders and of the Cancer Association of Namibia. Most importantly, Namibia can emulate how developed countries like the United States of America and the United Kingdom manage to curb breast cancer among female citizens.

Additionally, the study recommends that all health facilities should have updated guidelines in use and the guidelines should be published at regular intervals to ensure continuous availability. Quality management and staff development should be ensured, through training and education, recruitment and retention of qualified staff, as it will maximize the benefit of early detection among women in their reproductive age groups.

Also, further research is recommended on the impact of screening on breast cancer mortality, progression of mammography detected lesions, population acceptance, method of invitation, cost-effectiveness, and psycho-social effects in Namibia.

These research activities should address mammography screening of women between 15-49 age groups onwards in order to come up with a lasting preventative solution to the problem.

In conclusion, there is a need to address the misconceptions and incorrect practices on breast cancer screening. There is a need for personnel continuous healthcare staff development in order to equip them with current knowledge and skills necessary to combat the scourge of breast cancer.

#### **5.4. Conclusion about research questions**

Two questions were identified to achieve the purpose.

The purpose of the study was to explore the Knowledge, Attitudes and Practices (KAP) and the correlation of the determinant factors on early detection of breast cancer among women in Windhoek. The questions of this study are:

##### **Research Question one**

The first question was to assess the knowledge of women regarding breast cancer early detection. This study concluded that the knowledge of information about breast cancer does exist in Namibia. This may be explained by the findings that 78.8 % of women had knowledge on breast cancer and early detection, whereas 21.2% lacked the knowledge. With regard to sources of information regarding breast cancer, clinics recorded 34%, while Television (TV) and radio media with 32.7%, these were found to have played the biggest role in information sharing.

Women with secondary education (64.5%) were more knowledgeable, followed by those with tertiary levels (29.5%), age categories of 21-30 and 31-40 indicated a sum of 46.8% to have knowledge on breast cancer.

**Research Question two**

The second question was, what is the correlation between the determinant factors that influence knowledge, attitudes and practices on early detection of breast Cancer among women in Windhoek? This question was answered as follows: 83.3% of employed women and student/learners, reported the practicing of going for mammogram while (75.6%) of the unemployed indicated that they didn't attend to mammogram. This indicates that education plays an important role in early detection of breast cancer as far mammograms are concerned. This might also indicate that more women are educated in modern life.

Age categories of 21-30 and 41-49 (72.1% and 66.7%) practiced mammogram respectively. a Study done in Nigeria by Obajimi, Ajayi, Oluwasa, Abedokun, Sofoluwe, Mosuro, Akingbola, Bassey, Umeh, Soyemi, Adegoke, Oyunbade, Ukagwe and Milayo (2016), results show that several factors have been identified as influencing the level of knowledge and utilization of screening services in general. Sociodemographic characteristics such as younger age group an education have been reported with higher levels of awareness and utilization of screening services commoner among the educated and those with high socioeconomic class.

The use of Clinical Breast Examination were very low among respondents as only a small fraction (27.5%) visited the health facilities/ doctor for breast examination and 72.5% were the women who did not seek any medical or visited the doctor for any clinical breast examination.

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## **7. APPENDICES**

### **7.1. APPENDIX A: RESEARCH INSTRUMENT**

AN EXPLORATION OF KNOWLEDGE, ATTITUDES AND PRACTICES AS FACTORS THAT INFLUENCE EARLY DETECTION OF BREAST CANCER AMONG WOMEN IN WINDHOEK, KHOMAS REGION

Dear Respondents

Good Day, I am Anna Mowa a student at the University of Namibia/Working for MOHSS, I am also a Master's degree student (student number 9307338) at the University of Namibia and I am currently conducting research on on knowledge, attitudes and practices among women in Windhoek to determine how factors such as knowledge, attitudes and practices influence early detection of breast among women in Windhoek, Khomas Region as part of the Master of Public Health degree requirements. Respondents will have to complete the questionnaire according to their availability. Your opinion will represent the opinions of other child- bearing women [20-49] like yourselves and the information to be collected is confidential and will only be used for the purpose of this study. No names will be attributed to respondents. The questionnaire will take 30-50 minutes to complete. Could you please grant me few minutes of your time to complete the questionnaire?

Thank you in advance.



Signature of respondent

Date 01/07/2015

**IDENTIFICATION**

*(Note: To be administered only to women attending FP and ANC at six selected Health facilities):*

1 Questionnaire Number ----- 2 Date of interview-----

3 Name of Interviewer ----- 4 Name/code of health facility: -----

5 District----- 6 Region-----

**Section 1: Demographic Information**

(Please tick the appropriate box)

1.1 Location

a) Khomasdal

b) Katutura

c) Suiderhof

d) Otjomuise

e) Rocky crest

f) Others specify

1.2 Age

(a) 15-20

(b) 21-30

(c) 31-40

(d) 41-49

1.3 Marital status

(a) Single

(b) Married

(c) Widow

(d) Divorced/ Separated

(e) Cohabiting

1.4 Number of children

a) 0

b) 1

c) 2

d) 3

e) 4

1.5 Did you breast feed (if has children)

a) Yes

b) No

1.6 What is your Home Language?

a) Oshiwambo

b) Otjiherero

c) Afrikaans

d) Silozi

e) Damara- Nama

f) Others specify

1.7 Level of education (Tick the highest level of education)

(a) No formal education

(b) Primary education

(c) Secondary education

(d) Tertiary education

(e) Student/ Learner

18 Do you belong to any religion?

(a) Yes

(b) No

1.9 If yes, which religion does you belong to?

(a) Roman Catholic

(b) Lutheran

(c) Anglican

(d) Other (Specify)

1.10 Employment Status

(a) Still schooling

b) Employed

(C) Unemployed

d) Other, specify

1.11 Do you own/ covered by a medical health insurance/ medical aid scheme?

(a) Yes

(b) No

1.12 If the answer yes, does it finance the screening methods of Breast cancer?

(a) Yes

(b) No

(c) Do not know

**Section 2: Questions on knowledge of breast cancer early detection**

(Please tick the appropriate answer)

2.1 Have you ever heard of Breast Cancer?

(a) Yes

b) No

3.2 If the answer is yes, what did you hear about breast cancer? Elaborate

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2.3 Source /How did you hear about Breast Cancer? (Tick the correct answer (s)).

(a) Radio

(b) Newspaper

(c) Clinic

(d) Doctor

(e) Friends

(f) Family

(g) Other

2.4 Do you know the causes of Breast Cancer?

a) Yes

b) No

2.5 If the answer is yes, what are the causes of breast cancer? Mention

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2.6 Did anyone in your family died of Breast Cancer?

a) Yes

b) No

(b) Do not know

2.7 If yes, indicate which family member?

(a) Mother

(b) Grandmother

(c) Sister

(d) Aunty

(e) Cousin

(f) Extended family members

2.8 Do you use any contraceptives (Family planning methods)?

(a) Yes

(b) No

2.9 If yes, indicate which one (s) of the following are you using?

(a) Oral pills

(b) Injections

(c) Condoms

2.10 Do you smoke?

a) Yes

b) No

2.11 Do you take alcohol?

a) Yes

b) No

2.12 Were the risk factors (elements that increase the possibility or of harm or of a Harmful occurrence) of breast cancer ever likelihood explained to you?

(a) Yes

(b) No

2.13 If yes, which of the following were explained to you?

(Tick the appropriate answer (s).

(a) Women having her first menstrual period early, before age 12.

(b) Women never being pregnant.

(c) Women having a first baby after 30 years of age.

(d) Breast cancer inheritable in families.

(e) Breast cancer is associates with previous personal history of breast, ovarian cancer and

Smoking.

2.14 Were the early warning signs and symptoms of breast cancer ever explained to You?

(a) Yes

(b) No

4.16 If yes, which of the following sign and symptoms breast cancer ever explained to you?

(Tick the appropriate answer(s).

(a) Lumps in the breasts.

(b) Change in the breast size.

(c) Change in the color of the skin of the breasts.

(d) Change in the nipples of the breasts.

(e) Abnormal discharges from the nipples.

(f) Pain in the breasts

**Section 3: Questions on attitudes of breast cancer early detection**

3.1 Should be found to have breast cancer, what will be your reaction? ( Choose below)

a) Scared

b) Consult a doctor

c) Use traditional medicine

d) Go to a prayer house

3.2 If you develop breast lump how fast will you go to see a doctor?

a) Immediately

b) In a week

c) Latter

3.3 Do you think breast cancer is a curable disease?

a) Yes

b) No

3. 4 If yes how long will a woman with breast cancer live? Explain

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***Section 4 Question on practices of breast cancer early detection***

4.1 Did anyone ever explain to you different methods of examinations for early?

Diagnosis of breast cancer?

a) Yes

b) No

4.2 If yes, by whom?

(a) Clinic sister

(b) Family member

(c) Doctor

(d) Friend

4.3 Have you ever heard about breast self – examination?

(a) Yes

(b) No

4.4 If yes, by whom?



- (a) Clinic sister
- (b) Family member
- (c) Doctor
- (d) Friend

4.5 Was the procedure ever demonstrated to you?

- (a) Yes
- (b) No

4.6 If yes, by whom?

- (a) Clinic sister
- (b) Family member
- (c) Doctor
- (d) Friend

4.7 Have you ever done the procedure of breast self-examination yourself?

- a) Yes
- (b) No

4.8 If yes, what signs are you looking for during self-examination yourself?

(Tick the appropriate answer(s).

- (a) Lumps in the breasts.
- (b) Inverted nipples.
- (c) Nipples abnormal discharges.
- (d) Change in the breasts skin textures such as pain, redness and tenderness.
- (e) Change in the size and shape of the breasts.

4.9 How often should breasts self-examination be done?

- (a) Once every six months.
- (b) Once a month.
- (c) Annually.

4.10 Are the following screening methods used for detecting early breast cancer?

- (a) Sonar, a picture of breasts taken by a machine through sound waves.
- (b) Mammogram, a picture of breasts taken through X-rays.
- (c) Clinical breast Examination (CBE), examination of breasts by health workers.
- (d) No knowledge
- e) All above

4.11 Did you ever done breast screening before?

- (a) Yes
- b) No

4.12 If yes, how often should mammogram and clinical breasts examination (CBE) be done?

- a) Annually
- b) Every 2 years
- c) Every 5 years

Thank you very much for your time and input; your contributions are very much appreciated and valued.

## 7.2. APPENDIX B: LETTER OF PERMISSION FROM THE UNIVERSITY OF NAMIBIA, POSTGRADUATE COMMITTEE



### ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SEC/SoNPH/38/2014

Date: 23 June, 2014

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

**Title of Project:** Exploration Of Knowledge, Attitudes And Practices, And Other Breast Cancer Determinants Influencing Early Detection Among Women in Windhoek  
**Nature/Level of Project:** Masters

**Principal Researcher:** Anna Mowa(Student Nr: 9307338)

**Host Department & Faculty:** School of Nursing and Public Health

**Supervisor :** M. van der Vyver (Main) J. Kloppers; S. Demamu Yigeremu(Co)

Take note of the following:

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

UREC wishes you the best in your research.

Prof. I. Mapaure  
 UNAM Research Coordinator  
ON BEHALF OF UREC

### 7.3. APPENDIX C: LETTER OF PERMISSION FROM THE MINISTRY OF HEALTH AND SOCIAL SERVICES



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#### REPUBLIC OF NAMIBIA

#### Ministry of Health and Social Services

Private Bag 13198  
Windhoek  
Namibia

Ministerial Building  
Harvey Street  
Windhoek

Tel: 061 – 203 2510  
Fax: 061 – 222558  
E-mail: [eshaama@mhss.na](mailto:eshaama@mhss.na)

#### OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3

Enquiries: Ms. E. Shaama

Date: 19 May 2014

Ms. Anna K. Mowa  
P.O. Box 1253  
Windhoek

Dear Ms. Mowa

**Re: Exploration of Knowledge, Attitudes and Practices and other Breast Cancer Determinants influencing Early Detection among Women in Windhoek**

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
  - 3.1 The data to be collected must only be used for completion of your MPH degree;
  - 3.2 No other data should be collected other than the data stated in the proposal;
  - 3.3 A quarterly report to be submitted to the Ministry's Research Unit;
  - 3.4 Preliminary findings to be submitted upon completion of the study;
  - 3.5 Final report to be submitted upon completion of the study;
  - 3.6 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

PERMANENT SECRETARY  
  
 Andrew Ndishishi (Mr.)  
 Permanent Secretary  
 OF HEALTH AND SOCIAL SERVICES