HEALTH CARE PROVIDERS AND WOMEN ACCESSING ANTE-NATAL AND FAMILY PLANNING SERVICES’ KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS BREAST CANCER SCREENING IN ZAMBEZI REGION, NAMIBIA

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN APPLIED FIELD EPIDEMIOLOGY AT THE UNIVERSITY OF NAMIBIA

BY

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APRIL 2019

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ACKNOWLEDGEMENTS

First and foremost I would like to acknowledge the grace and favour of the Lord that has brought me this far.

I greatly appreciate the support, guidance and dedication of my supervisors, Dr. Solomon Yigeremu and Dr. Kofi Mensah Nyarko, thank you for pushing me to discover my potential and for going beyond your call of duty to enable me to complete this study through sacrificing your time and busy schedules. Thank you.

In no particular order I acknowledge with sincere gratitude the following institutions and individuals;

The University of Namibia and the ministry of Health and Social service at large for allowing me to conduct this study.

My lovely husband Mr. Stephan Nefuma for the wonderful love and support, not forgetting the support of my entire family.

Dr. Penehafo Angula and Dr. Honore Mitonga for the support they have shown towards this study, your efforts are recognized and appreciated.

Centre for Disease Control and Prevention (CDC) for the sponsorship, it is greatly appreciated.

Last but not least I acknowledge Ms. Judith Situmbeko, Ariana Kamwi, Christina Liomba and Chuma Likando for all the help rendered during data collection, I also thank the research assistants and participants for taking part in this study, you are all greatly appreciated.

May God bless all of you!
DEDICATION

This thesis is dedicated to my lovely parents, Mr Michael Likando and Mrs Veronica Likando who have always been supportive of me and taught me to always trust in the Lord. Your encouragement and guidance is what makes me who I am today. Let this be a gratitude of your never ending love, care and mentorship.

I love and appreciate you so much
DECLARATIONS

I Annete Kabuba Likando, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree in any other institution of higher learning.

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ABSTRACT

Breast cancer cases are on the increase globally. Studies have shown that breast cancer awareness is generally low in African women, thus most cases are detected late, indicating a low level of screening uptake. In 2011 there were a total of 291 breast cancer cases among Namibian women. In Zambezi region only 28% of women have ever been screened for breast cancer by a health care provider. Health care providers are key role players in awareness of breast cancer screening, as they have access to the public in a conducive environment fit for creating awareness and performing breast cancer screening.

The study assessed breast cancer and screening knowledge, attitudes and practices of health care providers, the knowledge of women accessing ante-natal care and family planning services, and the source of information for the women with regards to breast cancer and screening in Zambezi region.

A cross sectional study was conducted on 196 participants (98 health care providers and 98 women accessing ante-natal care and family planning services). Data was collected using structured questionnaires and was entered into micro soft Excel and analysed using EPI info 7.2 software. Frequencies and proportions were generated and bivariate analysis were performed to determine association.

Most (39.8%) of the health care providers were in the age group of 40 years and above, the majority (62.2%) were females. Health care providers had adequate knowledge (94.9%), positive attitudes (67.3%) and poor practices towards breast cancer and screening. Women accessing ante-natal care and family planning services showed inadequate knowledge on breast cancer screening (76.5%), and only 2.04% of them had ever been screened for breast cancer by a health care provider.
Generally health care providers had adequate knowledge and positive attitudes towards breast cancer screening, however their level of practices were poor, they rarely educated women accessing routine services at health facilities on breast cancer screening, thus there is a need to create more awareness among health care providers on their roles in screening practices, and to educate women on the importance of breast cancer screening.

**Key words:** Breast cancer, Screening, Knowledge, Attitudes, Practices, Health Care Providers
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<thead>
<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>ACS</td>
<td>American Cancer Society</td>
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<tr>
<td>ANC</td>
<td>Ante Natal Care</td>
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<tr>
<td>CAN</td>
<td>Cancer Association of Namibia</td>
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<tr>
<td>DHS</td>
<td>Demographic Health Survey</td>
</tr>
<tr>
<td>FELTP</td>
<td>Field Epidemiology and Laboratory Training Programme</td>
</tr>
<tr>
<td>KAP</td>
<td>Knowledge, Attitudes and Practices</td>
</tr>
<tr>
<td>MoHSS</td>
<td>Ministry of Health and Social Services</td>
</tr>
<tr>
<td>NamFELTP</td>
<td>Namibia Field Epidemiology and Laboratory Training Programme</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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CHAPTER 1: ORIENTATION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

This chapter introduces and gives the background of breast cancer and breast cancer screening, statement of the problem, study purpose and objectives, hypothesis, significance of the study, study limitations and operational definitions.

1.2 BACKGROUND OF THE STUDY

Cancer is a public health concern worldwide, it can affect any part of the body. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, which can invade adjoining parts of the body and spread to other organs (1). Cancer is the second leading cause of death globally, and was responsible for an estimated 9.6 million deaths in 2018, approximately 70% of all deaths from cancer occur in low- and middle-income countries (2). The Namibia National Cancer Registry (NNCR) indicates that during 2016 more than 3 700 new cases of cancer were diagnosed in Namibia (3).

Breast cancer is abnormal proliferation of breast cells, it affects both women and men but rare in men. Breast cancer cases are on the increase globally, in the year 2015 they accounted for 571 000 death worldwide (4), it is the most common cancer among women and the first cause of death among those in the age groups of 40-45 (2). It comprises of 23% of all female cancers and remains the leading cause of cancer-related deaths in developing countries around the world (4).
In Africa, breast cancer is responsible for 28% of all cancers and 20% all cancer deaths in women, however precise incidence figures in Africa are lacking given the absence of cancer registrations in most countries (5).

According to the NNCR, Breast cancer was the most common cancer among Namibian women between the years 2006 and 2009 (6). In 2010 there were a total of 288 breast cancer cases, and in 2011 there were 291 new cases in women and 5 in men (7). Breast cancer cases are spread among the 14 regions of Namibia, in Zambezi however it is among the five most frequent forms of cancers in the region.

Breast cancer survival can be improved through routine screening, which is done to identify individuals with abnormalities that are suggestive of breast cancer or pre-breast cancer who have not yet developed any symptoms and thus are referred for prompt diagnosis and treatment. The most acceptable ways of breast cancer screening are breast self-examination (BSE), clinical breast examination (CBE), mammography and Magnetic Resonance Imaging done by health care providers (8). The NNCR recommends that women in their 20s and 30s should have CBE performed every 3 years, after the age of 40, women should have a CBE and a mammogram done every year (6). Women in the 20s and above are at risk of breast cancer and the risk increases with advanced age, thus women who visit health facilities for ante-natal care (ANC) and family planning services should be screened for abnormal lumps in the breast and be taught how to do breast self-examination screening as part of routine screening (9).

The best approach in reducing breast cancer burden is through routine screening, which results from breast cancer screening knowledge that yields positive attitudes and practices thereafter. Early detected breast cancer cases can be treated in more
than 90% of patients, however there are limited facilities for detection and treatment of cancer in most African countries (5). Cancer awareness is low in most African countries, 25% of Africans surveyed believed that cancer had no cure and only 36% believed cancer was a major health issue, many women delay seeking medical attention until their tumors are quite advanced (5). Most cancer cases are detected late, indicating that screening uptake is low, thus a low chance of survival. Survival from breast cancer is markedly lower in Africa compared to other regions of the world (5).

Namibian women are expected to be screened yearly from the age of 20 years, however awareness is low in most regions (10). It has been revealed that by the year 2013, only 33% of Namibian women aged between 15-49 years have ever been screened for breast cancer, while only 31% have done breast self-examination and 23% have had CBE done (10). Zambezi region has a low uptake of breast cancer screening (7), only 12.7% of women have ever been screened by a health care provider (10). Low uptake of screening results in late diagnosis and thus reduces the chances of survival. Death cases resulting from breast cancer could be attributed to the lack of knowledge among the public and inadequate awareness on the importance of screening.

Health care providers are key people in improving and facilitating breast cancer screening, given that they possess adequate knowledge, right attitudes and correct practices to enable them to educate those who are eligible for screening during health facility visits. Research revealed that it is important for health care providers to have adequate knowledge, attitudes and practices towards breast cancer screening, encouragement of health care providers to clients on breast cancer screening improves screening uptake (11).
In Khomas region of Namibia, less than half (34%) of the women indicated that their preferred source of knowledge for breast cancer and screening methods were health care providers (7), however only 27.5% of these women said to have visited health facilities for breast cancer screening (7), thus it is important for health care providers to act as role models and encourage women to uptake screening services, thus they should have adequate knowledge that would lead to positive attitudes and good practices towards breast cancer screening.

Research has shown that health care providers had a low level of knowledge and poor breast cancer screening practices, only 8% of nurses has had mammogram done within the past 3 years (8). It has also been revealed that health care providers were mostly insufficiently informed about breast cancer and breast cancer screening methods (9), empowering health care providers in their knowledge and skills regarding breast cancer, screening methods and their related benefits could help advance their skills, and thus expand their roles as client educators, as a result this could boost breast cancer screening uptake among women in any given society (10), before their skills can be expanded, knowledge gaps need to be identified through a survey.

Knowledge is a very important component in the fight against breast cancer, but it is not adequate unless the cultural relevance of breast cancer screening is assured to the clients by health care providers who are providing direct health care (10). It is therefore expected that healthcare providers should have a higher level of knowledge, attitudes, and practices (KAP) towards breast cancer screening, as they are expected to educate clients on regular breast self-examination and engaging other screening methods, especially for women who access family planning, ante and post natal services. Health care providers can help increase screening uptake by educating
their clients on the importance of taking up screening as a routine check-up and, thus should be able to examine the shape, texture, location of any lump and skin changes during breast cancer screening (7).

Women in Zambezi region are usually only screened for breast cancer when they or the health care provider suspects a malignant tumour in their breasts, whereas if the cancer has already advanced very little can be done, hence breast cancer being the most common form of cancer among women in the region (11). Routine services accessed by women such as ANC and family planning are good opportunities for health care providers to inform them on the importance of breast cancer screening, seeing that a lot of women in Zambezi region attend these services, only 2.7% prefer not to (12). Therefore this study assessed the knowledge, attitudes and practices among health care providers, and knowledge of women attending ANC and family planning services in Zambezi region with regards to breast cancer screening, and further assessed the source of information for the women on breast cancer and screening.

1.3 STATEMENT OF THE PROBLEM

Breast cancer is a public health concern in Namibia, an estimated 632000 women are at risk of breast and cervical cancer (13). According to WHO, breast cancer deaths in Namibia reached 92 of all deaths cases reported in 2017 (14). The cancer association of Namibia (CAN) as a registry reported 3092 cancer incidences in the year 2012. The Demographic and Health Survey of Namibia (DHS) reported that there were about 1685 breast cancer cases recorded in Namibia between 2010 and 2014, it further revealed that only 33% of Namibian women have ever been screened for
Breast cancer, screening uptake is even lower in rural areas, only 18% of women between the ages of 45-49 have ever done breast self-examination (12). There is limited knowledge on breast cancer in the Namibian community, only a limited number of health care providers are trained to screen for breast cancer (13).

Women in the Zambezi region present late for breast cancer screening, thus leading to late diagnosis (4). The Namibian DHS report states that by the year 2013, only 27% of women in Zambezi region had done breast self-examination, and only 28% had ever been examined by health care providers, however their source of information for breast cancer screening was not assessed (12). Only 10.6% of these women read newspapers and listen to the radio at least once a week, thus more women could miss important health information through these mass media, such as breast cancer screening (12).

The DHS assessed only women with regards to breast cancer screening practices, however their knowledge was not assessed. There is a lack of information on KAP of health care providers on breast cancer screening in Namibia, thus this study assessed the KAP of health care providers, the knowledge and source of information for women with regards to breast cancer screening.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to assess the knowledge, attitudes and practices of health care providers towards breast cancer screening, and to assess the knowledge and source of women attending ANC and family planning services with regards to breast cancer and screening in Zambezi region, Namibia.
1.5 OBJECTIVES OF THE STUDY

- To describe the socio-demographic characteristics of health care providers and women accessing ante-natal and family planning services
- To describe their knowledge on breast cancer and screening.
- To describe attitudes and practices of health care providers’ on breast cancer and screening.
- Assess the source of information regarding breast cancer and screening for women attending ante-natal care and family planning services.

1.6 SIGNIFICANCE OF THE STUDY

The study seeks to provide evidence based information to MoHSS to help improve breast cancer screening services through health care provider’s encouragement to clients.

Previous studies conducted on breast cancer screening focused only on women, this study included male and female health care providers, to help improve service delivery from all health care providers with regards to breast cancer screening.

1.7 STUDY LIMITATIONS

Due to limited time frame of data collection period and tight work schedules of health care providers, the researcher allowed some questionnaires to be self-administered, and not interviewer administered as planned.
1.8 GLOSSARY OF TERMS

Health care providers

Health care providers, also known as health care workers are people whose jobs are to protect and improve the health of their communities, their primary intent is to enhance health (19).

Knowledge

Knowledge is defined as a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning. Knowledge can refer to a theoretical or practical understanding of a subject. It can be implicit (as with practical skill or expertise) or explicit (as with the theoretical understanding of a subject); it can be more or less formal or systematic. Knowledge acquisition involves complex cognitive processes: perception, communication, and reasoning, while knowledge is also said to be related to the capacity of acknowledgement in human beings (15).

Attitudes

Attitude is defined as a mind-set or tendency to act in a particular way due to both an individual’s experience and temperament. Typically refers to a person’s behaviour toward a particular issue or subject, it is a combination of personalities, beliefs, values, behaviours and motivation (16).

Practices

Practice refers to the actual application or use of an idea, belief, or method, as opposed to theories relating to it (17).
Breast cancer

Breast cancer starts when cells in the breast begin to grow out of control. These cells usually form a tumor that can often be seen on an x-ray or felt as a lump. The tumor is malignant (cancer) if the cells can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body. Breast cancer occurs almost entirely in women, but men can also get breast cancer. Breast cancer can start in any part of the breast, although many types of breast cancer can cause a lump in the breast, not all do (18).

Screening

Screening is defined as a systematic application of a test or enquiry to identify individuals at sufficient risk of a specific disorder for further investigation or to direct preventive action in persons that do not present symptoms of that disorder (19).

Research design

A research design is a study plan that provides the overall framework for collecting data, subjects and for data collection procedures to address the study objectives and questions. The goal of a sound research design is to provide results that are judged to be credible, a research design is a strategic framework for action that serves as a bridge between research questions and the execution, or implementation of the research strategy (20).
Sampling

It is the act, process or technique of selecting a suitable sample from an entire population for the purpose of determining characteristic or parameters about the whole population (21). The purpose of sampling is to enable the researcher to assess the characteristics and parameters of the sample in order to generalize the results to the entire population.

Validity

Validity is the ability of a test or instrument to accurately measure what it is supposed to measure (22). As a process, validation involves collecting and analysing data to assess the accuracy of an instrument.

Reliability

Reliability is a measure of the stability or consistency of test scores, the ability for a test or research findings to be repeatable and produce similar results (22).

Zambezi region

It is a name given to a region in the north-eastern part of Namibia, which is derived from the mighty Zambezi River that flows between Namibia and Zambia serving as a border between the two countries.

1.8 SUMMARY

The foregoing chapter presented the global, national and regional background of breast cancer and screening, it presented background information on the proportion of KAP information. It also highlighted the purpose and significance of the study, including the objectives and the glossary of terms.
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of this chapter is to analyse what other researchers found and compare similarities, differences and gabs on breast cancer, knowledge, attitudes and practices towards screening among health care providers and women, as well as source of information as far as women are concerned regarding breast cancer and screening.

2.2 BREAST CANCER

Breast cancer starts when cells in the breast begin to grow out of control, they usually form a tumor that can often be seen on an x-ray or felt as a lump. The tumor is malignant (cancer) if the cells can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body. Breast cancer occurs almost entirely in women, but men can get breast cancer too (18). Even though many types of breast cancer can cause a lump in the breast, not all of them do, many are only found through screening mammograms which can detect cancers at an earlier stage than breast self-examination, often before they can be felt, and before symptoms develop.

It is important to understand that most breast lumps are benign and are not cancer (malignant). Non-cancerous breast tumours are abnormal growths, but they do not spread outside of the breast and they are not life threatening, but some benign breast lumps can increase a woman's risk of getting breast cancer. Any breast lump or change in the breasts need to be checked by a health care professional in order to determine if it is benign or malignant (18).
2.3 CLINICAL FEATURES OF BREAST CANCER

The most common symptom of breast cancer is a new lump or mass. A painless, hard mass that has irregular edges is more likely to be cancer, but breast cancers can be tender, soft, or rounded, they can also be painful. For this reason, it is important to have any new breast mass, lump, or breast change checked by a health care provider experienced in diagnosing breast diseases. Other possible symptoms of breast cancer include (18):

- Swelling of all or part of a breast (even if no distinct lump is felt)
- Skin irritation or dimpling (sometimes looking like an orange peel)
- Breast or nipple pain
- Nipple retraction (turning inward)
- Redness, scaliness, or thickening of the nipple or breast skin
- Nipple discharge (other than breast milk)

Sometimes breast cancer can spread to lymph nodes under the arm or around the collar bone and cause a lump or swelling there, even before the original tumor in the breast is large enough to be felt. Mammograms do not find every breast cancer, therefore it is important for one to be aware of changes in their breasts and to know the signs and symptoms of breast cancer (18).
2.4 BREAST CANCER SCREENING

Early detection of breast cancer cases can increase chances of survival, knowing how your breasts normally look and feel is very important but knowing what to look for does not take the place of having regular mammograms and other screening methods.

Breast cancer screening is aimed to identify individuals with abnormalities suggestive breast cancer or pre-breast cancer who have not yet developed any symptoms, in order to refer them promptly for diagnosis and treatment. In general, a screening programme is a far more complex public health intervention compared to early diagnosis. According to WHO, late-stage presentation and inaccessible diagnosis and treatment are mostly common in developed countries (4).

In 2015, only 35% of low-income countries reported having pathology services generally available in the public sector. More than 90% of high-income countries reported that treatment services are available compared to less than 30% for low-income countries (4).

There are 2 most common breast cancer screening methods that are cost-effective; breast self-examination and clinical breast examination:

- **Breast self-examination (BSE)**

Breast self-examination is a simple and cost effective method of breast cancer screening where an individual examines their own breast (usually done by women monthly after the age of 20 years.), they systematically inspect and palpate their breasts using their controlateral hand with their ipsilateral arm raised above their head. It can be done in either a lying and standing position, usually it is better to examine the breast in front of mirror so that any sort of asymmetry or dimpling can be noticed (23).
Clinical breast examination (CBE)

CBE is a standardized procedure whereby a health care provider examines an individual’s breast, chest wall, and axillae. The examination consist of 1) Visual inspection of the breast while the person is in upright position and their arms are relaxed and then raised above their head. 2) Palpation of the axillae and supraclavicular fossae when there are in an upright position and 3) palpation of the breasts while they are both in upright and supine positions. The examiner inspects the breast visually for symmetry, skin of the breast, areola, and nipple for oedema, erythema, puckering, dimpling, or ulceration, all of which can be evidence of underlying masses. The provider palpates the regional axillary nodes. Enlarged hard, matted or fixed nodes can indicate cancer (23).

2.5 BREAST CANCER AND SCREENING OUTSIDE AFRICA

A KAP study conducted among health care providers in Isfahan, Iran stated that it is expected for healthcare providers to have a higher level of knowledge, attitudes, and practices in the field of healthy behavior, including breast cancer screening. Healthcare providers in Iran were found to have good knowledge and attitudes towards breast self-examination but their practices were not acceptable (24), thus there was still a need to find ways to improve their practices.

Health care providers play a major role in the promotion of breast cancer screening. Some developed countries are now having nurses who specialize in breast care and screening, this is also much needed in developed countries that have a much higher breast cancer burden (25).
A study conducted in San Diego, found that having had breast self-examination taught by health care providers was significantly associated with the frequency of performing breast self-examination among women and thus further emphasized the importance of health care providers continuing with breast self-examination instructions during clinical encounters with clients (25).

Public health nurses in Singapore were found to have good knowledge on breast cancer risk factors when their knowledge and practices were assessed. 93% of them practiced breast self-examination and more than half had their breasts examined by health providers in the past one year (22). In contrary, female health care providers in Turkey had poor practices towards breast cancer screening (10).

Research conducted in Karachi, Pakistan found that health care providers had sound knowledge, good attitudes and practices towards preventive methods of breast cancer, however majority of the female health providers were not practicing breast self-examination, despite having sound knowledge about it (26). The level of knowledge of heath care providers is an important determinant for the use of screening programmes, through them acting as role models (10).

A study conducted among female teachers in Saudi Arabia where breast cancer is the most common cancer, found that women had limited knowledge on breast cancer screening and most only knew about breast self-examination, the most common source of information about breast cancer among them was however found to be the printed media (28).

In Thailand, women personnel at Walailak University were found to have significantly high knowledge on risk factors of breast cancer, however an urgent need to motivate and train health care providers to routinely promote screening
methods was identified, the findings also revealed that women presented late at health facilities (26). On the other hand, women in Wardha district in India, rarely practiced breast self-examination (only 4.5%), however 68.5% of them have heard about breast cancer screening and had positive attitudes towards it. It was then revealed that the country had no organized national screening programme at the time of the study (27).

Another study conducted among the educated population in Iraq, which included health care providers revealed that most patients were diagnosed late and that there was an urgent need to disseminate information on breast cancer, risk factors and screening methods to health care providers to improve early screening uptake. Knowledge was found to be poor in half of them (25), which requires more awareness to be done.

2.6 BREAST CANCER AND SCREENING IN OTHER AFRICAN COUNTRIES

African countries are mostly heavily burdened with breast cancer due to late diagnosis among other reasons, it is relevant to explore data from other African countries in order to direct ways of helping to lessen the burden.

Moroccan health care nurses were found to have fairly good knowledge on breast cancer risk factors, majority (77%) of them routinely advised their clients on practicing breast self-examination, however only 9% of them practiced it themselves (31).

In Nigeria, breast cancer is the most common cancer among women and the second largest cause of death, thus a study was conducted to assess knowledge, attitudes and
practices of breast cancer screening among nurses. The results of the study showed poor knowledge on breast cancer warning signs and detection, more than half of the nurses failed to correctly perform breast self-examination, even though there were some gaps in their knowledge, they were overall well informed. The study further stated that nurses play a crucial role in providing accurate information on breast cancer to the public, as they are more frequently in contact with patients than other health professionals, it also identified a need for institutional framework and policy development to empower nurses to play an expanded role in breast cancer care (26), to be able to develop a framework and policies, a survey is required to be able to identify areas that need improvement.

More research in Nigeria found that female health care providers had good knowledge on screening services, however their practices were found to be poor, such that only 26.4% had ever gone for clinical breast examination. The study further recommended that they should be educated to increase their knowledge and awareness on breast cancer screening (27).

Research revealed that Somalian women had low breast cancer awareness, with limited diagnosis and these women presented very late to seek medical help. They were also found to have limited knowledge, poor perceptions and thus it was recommended that health providers should be trained in awareness creation and performing screening services (33). Similarly women in Uganda were also found to have a tendency of reporting late for screening, and were also found to have never gone for mammography. They had inadequate knowledge and inappropriate practices, the study recommended a comprehensive programme to be implemented by ministry of health in Uganda in order to create awareness among women on breast cancer and screening methods (32).
In a rural community of Makwarani in South Africa, knowledge, attitudes and practices towards breast cancer screening was assessed among women between the ages of 30 to 65 years old, a relatively low knowledge with negative attitudes among the women was found, it was further found that health education was lacking and thus attributed to negative attitudes that led to late detection. In response to these findings, the study recommended that community based interventions be done in the area and further acknowledged that knowledge is necessary but insufficient without the cultural relevance being assured to the women by health care providers (10).

2.7 BREAST CANCER AND SCREENING IN NAMIBIA

In the year 2013, a Demographic Health Survey (DHS) was conducted in Namibia, it stated that women should start with routine breast self-examination at the age of 20 years old and continue doing so every month, adult women should undergo regular clinical breast exams performed by health care providers. The survey revealed that about 33% of women between the ages of 15-49 years had ever gone for cancer screening, whereas only 31% of them had done breast self-examination and 23% had ever gone for clinical breast examination performed by a health care provider. Furthermore, women between the ages of 45-49 years were more likely to have been screened for breast cancer by a health care provider, only 18% of women in rural areas had ever performed breast self-examination (12).

Scaling down to the regions, more than half (52%) of the women in Erongo region were found to have done breast self-examination, however only 10% of women in Kavango region have ever performed breast self-examination (12).
In Windhoek, Khomas region majority of women were found to have sound knowledge on breast cancer and detection methods, however only 27.5% have ever practiced clinical breast examination, 34% of them indicated that their preferred source of information regarding breast cancer and early detection were clinics or health care providers (7).

A study conducted among women in Intermediate Hospital Oshakati regarding health promotion on prevention of breast cancer found that women had sound knowledge on breast cancer but had no detailed information on the risk factors and early warning signs, they were found to know about screening methods (63%), the radio was found to be the most common source of information, followed by health centres. Few women who had medical aid went for mammogram following recommendations from their private physicians but they rarely requested for it themselves. Women in Oshakati presented late for breast cancer screening and recommended routine mammogram was not applied due to scarce resources (28).

In Ongwediva med park private hospital, a cancer awareness campaign was held in October 2017 where about 937 women voluntarily got screened for breast cancer by health care providers, the aim of the campaign was to sensitize women on breast cancer, early diagnostic behaviour, screening methods, signs and symptoms of breast cancer. It was emphasized at the campaign that public health programmes be initiated in primary health care centres to ensure that women who accessed these centres had adequate knowledge concerning breast cancer (28).

The present study will additionally provide evidence based results regarding the source of information for women towards breast cancer screening.
2.7 SUMMARY

Chapter 2 discussed breast cancer and screening knowledge, attitudes and practices among health care providers and women who are at a greater risk of developing breast cancer, it looked at what is known and the gaps found in other regions.
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the research design and methods used to answer the study objectives, including the research design, sampling, data collection instruments, reliability, validity, data management and analysis. The ethical consideration and the rights of the participants have also been explained.

3.2 RESEARCH METHOD AND DESIGN

A quantitative approach using a descriptive cross-sectional design was used for this study, using a systematic random sampling method, which ensured that each respondent had an equal chance of participation in the study.

Health care providers and women accessing ANC and family planning services in Zambezi region were recruited for the study.

3.3 STUDY SETTING AND POPULATION

Zambezi region is a region situated in the north-eastern part of Namibia, with a one region-one district profile, it has one state hospital, 3 health centres and 25 clinics. According to census 2011, it had a population of 90596 with an annual growth rate of 1.3%, with women comprising of 51% of the entire population. The study participants were health care providers and women attending ANC and family planning services in Zambezi region health facilities.
3.3.1 Inclusion Criteria

All health care providers working in facilities offering ANC and family planning services and women who accessed family planning and ANC services in Zambezi region who gave consent and were willing to be part of the study.

3.3.2 Exclusion Criteria

- All health care providers (Doctors, Nurses and Health extension workers) who were not in facilities offering ANC and family planning services, and women who did not give consent and were not willing to participate in the study even though they accessed the services.

- All health care providers who were not on duty during the data collection period (those who were on leave).

- All women who were at the health facilities for other services rather than family planning and ante-natal care services at the time of the study.

3.4 SAMPLE AND SAMPLING METHOD

The sample size was calculated using Epi info 7 version statistical package, using the following parameters; population size: 265 (there are 28 health facilities offering ANC and family planning services in Zambezi region, on average each has 4 health care providers, which gives an estimate of 112 health care providers. According to the Namibian DHS of 2013, only 153 women in Zambezi region attended ANC services at pregnancy 5 year prior to the survey). Expected frequency: 23%, Margin of error: 3%, Design effect: 1, Cluster: 1, Confidence level: 95%, thus the minimum sample size of 196 was given.
Every health care provider available was interviewed until the sample size of 98 was reached. Women accessing family planning and ante-natal services were randomly selected by each picking a paper in a jar, papers were numbered 1 and 2, and every women who picked a paper written number 2 was interviewed up until the sample size of 98 was realized, giving a total sample size of 196.

3.5 RESEARCH INSTRUMENTS

Structured questionnaires were used to collect the data needed for the research, one questionnaire was designed for health care providers and the other one was designed for women who accessed family planning and ante-natal care services. The questions were translated in the local language (Silozi) for the participants who could not understand English. The health care providers questionnaire had four sections; A, B, C and D.

Section A: socio-demographic characteristics such as age, sex, marital status, current resident, and years worked.

Section B: Knowledge questions related to breast cancer and screening.

Section C: Attitude section captured questions on thoughts and opinions towards breast cancer and screening.

Section D: Practices section captured questions on participants’ behaviour towards breast cancer screening.

The questionnaire for women had 3 sections: A, B, C

Section A: Socio-demographic characteristics such as Sex, Age, Marital status, current residence, level of education and number of children.
Section B: Knowledge on breast cancer. Section C: Information regarding breast cancer at health facility visits.

3.5.1 validity
In this study validity was ensured by thoroughly going through the information collected in relation to the questions and objectives of the study, so as to ensure accuracy and completeness of the data collected. The research supervisors and the ethical review committee examined the questionnaires and the appropriate changes suggested were made prior to data collection. The results of the pilot study were also taken into consideration in improving the validity of the questionnaires.

All interviews were done in health facilities to ensure that data was collected from the right participants.

3.5.2 reliability
In this study, the researcher established specific measures to ensure reliability of the data collection instruments. The questionnaires were pre-tested before the actual data collection was done. The participants were well informed on the purpose of the study, and the research assistants were trained on how to collect data using the questionnaires.

The results of the pre-test confirmed that the data collection tools could provide valid and reliable results.
3.6 PRE-TESTING OF DATA COLLECTION INSTRUMENTS

The questionnaires were pre-tested in 3 of the health facilities; Kanono, Masokotwani and Ngoma clinics on 10 of the participants eligible for the study before the actual data collection was done. This helped with rephrasing of questions were applicable, sensitivity and acceptability of research questions, it also gave an idea of the duration of interviews, seeing that health facilities are usually busy.

The participants of the pilot study were encouraged afterwards to give suggestions on the instructions, clarity of questions and relevance. The questionnaires were then modified as necessary based on the responses.

On the health care providers’ questionnaire, the following were modified; the 1st question in section B and the 5th question in section C from open ended to having options for easy analysis, some unnecessary questions were removed. The question on marital status on both questionnaires was adjusted by removing some options that the participants were not comfortable with; that is “co-habiting and traditional monogamous and polygamous, it remained with only options of married, single, divorced and widowed.

The questionnaire for women was modified into 3 sections only instead of 4. Apart from socio-demographic characteristics, only their knowledge and source of information on breast cancer and screening was assessed.
3.7 DATA COLLECTION PROCEDURE

Data collection was done between June and September 2018. The study included health care providers and women attending family planning and ANC services at health facilities.

During the data collection, health care providers in health facilities were interviewed, starting with the facilities in town then the ones in rural areas. The women were selected randomly, every women who picked a paper numbered “2” attending family planning and ANC services was systematically selected, the women participants were interviewed by female assistants to ensure comfortability in participation.

Briefing about the purpose of the research was done on a daily basis to the participants before data collection. All interviews were conducted in the health facilities.

3.8 DATA MANAGEMENT AND ANALYSIS

The data was entered into Microsoft excel and analysed using Microsoft excel and Epi info version 7. Social demographic characteristics were analysed into frequencies and percentages. Knowledge, attitudes and practices were determined using questions on signs and symptoms, risk factors, screening and source of information obtained on breast cancer and screening.

For the health care providers’ questionnaire, on section B (knowledge) the total marks each participant could obtain was 11, with 1 point given for each correct answer and 0 for a wrong answer, inadequate knowledge was rated at a score of 5 and less points, and adequate knowledge at a score of 6 and above points. The overall score was calculated for all 11 questions.
Attitudes in section C were assessed using 9 questions on Likert scale, agree-1, do not know-0, Disagree-0. The total marks each participant could obtain was 9, each participant who had a score of 4 and less was rated to have poor attitudes and those with a score of 5 and above rated as having positive attitudes.

Section D (practices) had a total of 4 questions, practices were assessed by calculating frequencies of those who had been screened for breast cancer, screened clients before, and those who informed clients on breast cancer. The questions of how long ago they were screened was analysed descriptively.

For the questionnaire designed for women participants, assessment was done on the knowledge level and source of information with regards to breast cancer and screening. On knowledge, assessment was done on 9 questions, which were scored as 1 for every correct answer and 0 for every wrong answer. A score of 4 and less was regarded as inadequate knowledge, 5 and above was rated as adequate knowledge. Source of information about breast cancer and screening was analysed into frequencies.

3.9 RESEARCH ETHICS

3.9.1 Permission

Ethical clearance and approval to conduct the research was obtained from the University of Namibia, and the second approval was obtained from the Ministry of health and Social services. The approval letter from Ministry of Health and Social services was presented to the Zambezi regional director and Chief Medical Officer, who then approved data collection in the health facilities.
3.9.2 Voluntary participation and Informed consent

All participants were randomly selected and no participant were forced to participate in the study, they all understood the purpose of the study and understood that they could withdraw from the study at any time without any penalty. No participants were interviewed without giving their consent and no harm was done to them during the study.

3.9.3 Confidentiality and Anonymity

Confidentiality and anonymity were adhered to throughout the study, no names of participants were used in the study and all information collected is kept in a password locked file and only accessible to the principal researcher. Findings to the study will only be used for research purposes. No patient records were reviewed as part of the study.

3.10 SUMMARY

This chapter addressed the methodology and study design used to enrol the study participants and to collect data. It also considered the ethical principles that ensured that the participants were not forced and harmed in any way.
CHAPTER 4: RESULTS OF THE STUDY

4.1 INTRODUCTION

This chapter summarises the main findings of the research. Data were analysed descriptively in terms of the study objectives. A total of 196 (98 health care providers and 98 women) participants were interviewed. The results are presented separately for health care providers and women accessing ANC and family planning services. They are analysed in the order they appear in the questionnaires as follows:

- Socio-demographic characteristics of respondents (Age, sex, residential, marital status, employment status (women), number of children (women), level of education (women) and number of years in service
- Level of knowledge (Adequate/inadequate)
- Attitudes (negative/positive)-only for health care providers
- Practices (good/bad)-only for health care providers
- Source of Information regarding breast cancer and screening for women accessing family planning and ANC services

The last part of the results presents the bivariate analysis of variables that contains values greater than 5. The level of significance was determined at a P-value less than 0.05 at 95% confidence interval and a confidence interval that do not contain 1.
4.2 ANALYSIS OF HEALTH CARE PROVIDERS

Health care providers were assessed and the results are presented below.

4.2.1 Socio-demographic characteristics of health care providers

The results on socio-demographic characteristics of health care providers are presented below in Table 4.1.

Table 4.1: Socio-demographic characteristics of health care providers, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency (N=98)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>24</td>
<td>24.5</td>
</tr>
<tr>
<td>30-39</td>
<td>35</td>
<td>35.7</td>
</tr>
<tr>
<td>40+</td>
<td>39</td>
<td>39.8</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>61</td>
<td>62.2</td>
</tr>
<tr>
<td>Male</td>
<td>37</td>
<td>37.8</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>28</td>
<td>28.6</td>
</tr>
<tr>
<td>Married</td>
<td>54</td>
<td>55.1</td>
</tr>
<tr>
<td>Widowed</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>Divorced</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td>Profession</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Doctor</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>24</td>
<td>24.5</td>
</tr>
<tr>
<td>Enrolled Nurse</td>
<td>51</td>
<td>52.0</td>
</tr>
<tr>
<td>Health Extension workers</td>
<td>19</td>
<td>19.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of years in service as health care providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than a year</td>
</tr>
<tr>
<td>1-4 years</td>
</tr>
<tr>
<td>5-9 years</td>
</tr>
<tr>
<td>10 and above years</td>
</tr>
</tbody>
</table>

The ages of health care providers were divided into 3 age groups of 20-29 years, 30-39 years, 40 and above years. The majority 39 (39.8%) were in the age group of 40 and above years old.

Majority 61 (62.2%) were female health care providers, more than half 54 (55.1%) of them were married, followed by those who were single 28 (28.6%).

Most 51 (52.0) were enrolled nurses, followed by registered nurses 24 (24.5%).

The majority 41 (41.8%) of the health care providers had been in service for 5-9 years.
4.2.2 Knowledge on breast cancer and screening

Knowledge specific to the question on breast cancer and screening, summarizes the responses of health care providers to the specific questions on breast cancer.

Table 4.2 Distribution of health care provider’s responses on breast cancer and screening knowledge, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Variable (N=98)</th>
<th>No</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could define breast cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>88</td>
<td>89.8</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>10.2</td>
</tr>
<tr>
<td>Could correctly indicate clinical features of cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>89</td>
<td>90.8</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>9.2</td>
</tr>
<tr>
<td>Could identify risk factors of breast cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>68</td>
<td>69.4</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>30.6</td>
</tr>
<tr>
<td>Could indicate whether breast cancer survival is increased with early detection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>91</td>
<td>92.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Could identify whether breast cancer can be treated</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>87</td>
<td>88.8</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td><strong>Could indicate the right age women should start going for regular breast cancer screening</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>55</td>
<td>56.1</td>
</tr>
<tr>
<td>No</td>
<td>43</td>
<td>43.9</td>
</tr>
<tr>
<td><strong>Could indicate how many times eligible women should be screened</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>61</td>
<td>62.2</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>37.8</td>
</tr>
<tr>
<td><strong>Indicated whether women accessing family planning and ANC services should be told about breast cancer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>81</td>
<td>82.7</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>17.3</td>
</tr>
<tr>
<td><strong>Could indicate atleast 2 methods of breast cancer screening (BSE and CBE)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.2 above represents the knowledge responses of health care workers on breast cancer and screening.

Data is presented in frequencies (N=98) and percentages (%)

More than half (89.8) of the respondents knew what breast cancer was, 89 (90.8%) of them were able to identify clinical features of breast cancer. Out of the 90.8% able to identify clinical features of breast cancer, most 79 (88.8%) of the respondents indicated presence of lump in the breast as the most common sign.

About 68 (69.4) respondents were able to identify risk factors associated with breast cancer, while 91 (92.9%) indicated that screening can increase chances of survival.

More than half 55 (56.1%) of the respondents indicated the right age for women to start going for breast cancer screening. Most 81 (82.7%) agreed that women accessing family planning and ANC services should be informed about breast cancer and screening. Almost all 93 (94.9%) respondents could indicate at least 2 breast cancer screening methods. Less than half 47 (48.0%) could indicate that breast cancer can affect both males and females.
The level of knowledge among health care providers graded as indicated in chapter 3 (Methodology) is indicated in the table below.

Table 4.3 Knowledge levels on breast cancer and screening among health care providers, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Knowledge level about breast cancer</th>
<th>Frequencies (N)</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate knowledge</td>
<td>93</td>
<td>94.9</td>
</tr>
<tr>
<td>Inadequate knowledge</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>98</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

A total of 93 (94.9%) health care providers had adequate knowledge on breast cancer and screening.
### 4.2.3 Attitudes of health care providers on breast cancer screening

The results on attitudes of health care providers towards breast cancer and screening are summarized in table 4.4 below.

**Table 4.4: Attitudes of health care providers towards breast cancer screening, Zambezi region, 2018**

<table>
<thead>
<tr>
<th>Attitude statement</th>
<th>Agree N (%)</th>
<th>Disagree N (%)</th>
<th>Do not know N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast cancer is a serious disease</td>
<td>98 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>It is important to go for regular breast cancer screening</td>
<td>98 (100)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Health care providers should also go for regular breast screening</td>
<td>89 (90.8)</td>
<td>1 (1.0)</td>
<td>8 (8.2)</td>
</tr>
<tr>
<td>Breast cancer screening reduces breast cancer mortality</td>
<td>91 (92.9)</td>
<td>2 (2.0)</td>
<td>5 (5.1)</td>
</tr>
<tr>
<td>It is the responsibility of health care providers to encourage clients on breast cancer screening</td>
<td>67 (68.4)</td>
<td>14 (14.3)</td>
<td>17 (7.3)</td>
</tr>
</tbody>
</table>
There is a need to sensitize the public on breast cancer screening

Advertisement through the radio can improve breast cancer screening uptake

Teaching clients about breast cancer screening helps increase screening uptake

It is easy to inform clients about regular breast cancer screening

A total of 98 health care providers were assessed on their attitudes towards breast cancer and screening. The scores were coded and summed up to score them into positive and negative attitudes in table 4.5 below.
Table 4.5 Health care providers’ attitude levels towards breast cancer screening, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Attitude levels towards breast cancer screening</th>
<th>Frequencies</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive attitude</td>
<td>66</td>
<td>67.3</td>
</tr>
<tr>
<td>Negative Attitudes</td>
<td>32</td>
<td>32.7</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>98</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

More than 66 (67.3 %) half of the health care providers in Zambezi region displayed positive attitudes towards breast cancer screening.
4.2.4 Practices of health care providers towards breast cancer screening

Practices of health care workers towards breast cancer screening are analysed below into frequencies and descriptively.

Responses on health care providers who have ever been clinically screened for breast cancer are presented below in figure 4.1

Figure 4.1 Health care provider’s responses on having ever been clinically screened for breast cancer, Zambezi region, 2018

Most 95 (96.9%) of the health care providers in Zambezi region have never been screened for breast cancer.

The 3.1% of health care providers who were clinically screened for breast cancer, 2 of them (66.7%) were screened over a year ago and 1 (33.3%) was screened less than a year ago.
Responses of health care providers on having ever screened a patient for breast cancer are presented in figure 4.2 below.

![Pie chart showing responses of health care providers on having ever screened a patient for breast cancer, Zambezi region, 2018.]

Figure 4.2: Responses of health care providers on having ever screened a patient for breast cancer, Zambezi region, 2018

Most health care providers 59 (60.2%) have never screened clients for breast cancer before. Out of the 60.2% who have screened clients for breast cancer before, only 12 (30.8%) of them have ever actually taught them how to do breast self-examination.
4.3 ANALYSIS OF WOMEN ATTENDING ANC AND FAMILY PLANNING SERVICES

A total of 98 women accessing ANC and family planning services were assessed and the results are presented below

4.3.1 Socio-demographic characteristics of women accessing ANC and family planning services

Table 4.6: Socio-demographic characteristics of women attending ANC and family planning services, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency (N=19)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age group (Years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>7</td>
<td>7.1</td>
</tr>
<tr>
<td>20-29</td>
<td>33</td>
<td>33.7</td>
</tr>
<tr>
<td>30-39</td>
<td>43</td>
<td>43.9</td>
</tr>
<tr>
<td>40-49</td>
<td>11</td>
<td>11.2</td>
</tr>
<tr>
<td>50+</td>
<td>4</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Current resident</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>57</td>
<td>58.2</td>
</tr>
<tr>
<td>Urban</td>
<td>41</td>
<td>41.8</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>35</td>
<td>35.7</td>
</tr>
<tr>
<td>Married</td>
<td>59</td>
<td>60.2</td>
</tr>
<tr>
<td>Widowed</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Employed</td>
<td>36</td>
<td>36.7</td>
</tr>
<tr>
<td>Not Employed</td>
<td>62</td>
<td>63.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of children</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>19</td>
<td>19.4</td>
</tr>
<tr>
<td>1-3</td>
<td>62</td>
<td>63.3</td>
</tr>
<tr>
<td>4-6</td>
<td>13</td>
<td>13.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of education</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal education</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Primary education</td>
<td>2</td>
<td>2.0</td>
</tr>
<tr>
<td>Secondary education</td>
<td>75</td>
<td>76.5</td>
</tr>
<tr>
<td>Tertiary education</td>
<td>18</td>
<td>18.4</td>
</tr>
</tbody>
</table>

The ages of women accessing family planning and ANC services were divided into 5 age groups of 15-19 years, 20-29 years, 30-39 years, 40-49 years, 50 and above years. The majority 43 (43.9) belonged to the age group of 30-39 years old.

More than half 57 (58.2%) resided in the rural area. Majority 59 (60.2%) were married. Assessment of their employment status showed that 62 (63.3%) were not employed.

Assessing the number of children each women had revealed that the majority 62 (63.3) had between 1-3 children. Majority 75 (76.5) had reached secondary school level.
4.3.2 Knowledge of women accessing ANC and family planning services

The responses of women accessing ANC and family planning services are presented below in table 4.7

Table 4.7 Women accessing ANC and family planning services’s responses on knowledge specific questions, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Variable (N=98)</th>
<th>No</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have ever heard of breast cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65</td>
<td>66.3</td>
</tr>
<tr>
<td>No</td>
<td>33</td>
<td>33.7</td>
</tr>
<tr>
<td>Could correctly define breast cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>14.3</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>85.7</td>
</tr>
<tr>
<td>Able to know that breast cancer is common in their region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>89</td>
<td>90.8</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>9.2</td>
</tr>
<tr>
<td>Knows that breast cancer is treatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>18.4</td>
</tr>
<tr>
<td>No</td>
<td>80</td>
<td>81.6</td>
</tr>
<tr>
<td><strong>Ever heard of breast cancer screening</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>44</td>
<td>44.9</td>
</tr>
<tr>
<td>No</td>
<td>54</td>
<td>55.1</td>
</tr>
<tr>
<td><strong>Agreed that breast cancer screening can improve chances of survival</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>21.4</td>
</tr>
<tr>
<td>No</td>
<td>77</td>
<td>78.6</td>
</tr>
<tr>
<td><strong>Able to demonstrate breast self-examination correctly</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>94.9</td>
</tr>
</tbody>
</table>

More than half 65 (66.3%) of the women have heard of breast cancer before but only 14 (14.3) out of all the women could correctly define breast cancer.
Majority 89 (90.8%) agreed that breast cancer was common in the region. Less women 18 (18.4%) thought breast cancer was treatable, even though 44 (44.9%) have heard of breast cancer screening.

Only 21 (21.4%) of them indicated that breast cancer screening can increase chances of survival and only a merely 5 (5.1%) could correctly demonstrate breast self-examination.

Table 4.8 Knowledge levels among women accessing ANC and family planning services, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Knowledge level about breast cancer</th>
<th>Frequencies (N)</th>
<th>Percentages (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate knowledge</td>
<td>23</td>
<td>23.5</td>
</tr>
<tr>
<td>Inadequate knowledge</td>
<td>75</td>
<td>76.5</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Majority 75 (76.5%) of women had inadequate knowledge on breast cancer.
The table below shows the results on the source of information for women accessing ANC and family planning services with regards to breast cancer and screening (Only 65 out of 98 women indicated to have heard of breast cancer)

Table 4.9 Sources of information on breast cancer and screening for women accessing ANC and family planning services, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Source of information with regards to breast cancer and screening</th>
<th>Frequency (N=66)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends/ family</td>
<td>33</td>
<td>50.8</td>
</tr>
<tr>
<td>Books</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Television/ Radio</td>
<td>12</td>
<td>18.5</td>
</tr>
<tr>
<td>Church</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Newspaper</td>
<td>9</td>
<td>13.8</td>
</tr>
<tr>
<td>Health care provider</td>
<td>4</td>
<td>6.2</td>
</tr>
<tr>
<td>Health pamphlet</td>
<td>6</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Women who have heard about breast cancer indicated the following sources; family/ friends 33 (50.6%), Television/Radio 12 (18.5%), Newspaper 9 (13.8%), Health pamphlets 6 (9.2%), health care provider 4 (6.2%) and school 1(1.5%).
4.3.3 Responses of women on information regarding breast cancer that is in relation to ANC and family planning visits, Zambezi region, 2018

The type of service women who were interviewed were accessing at health facilities are presented in the pie chart below.

![Pie chart showing the types of services accessed by women in Zambezi region, 2018.](chart)

Most 66 (67.3%) were accessing family planning services than ANC. Only 2 (2.04%) out of 98 women indicated that they have been clinically breast examined by a health care provider during their routine ANC visits.
4.8 ASSOCIATION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS AND LEVELS OF KNOWLEDGE, ATTITUDES AMONG RESPONDENTS

The associations are summarized below. Data are presented as Adequate knowledge (AK) and Inadequate Knowledge (IK), Positive Attitudes (PA) and Negative Attitudes (NA) in frequencies (N) and percentages (%). An asterisk (*) indicates a reference category. Odd ratios are indicated at 95% confidence interval (C.I. 95%) and probability values (P-value). Significance was determined at less than 0.05. Characteristics with 5 or less variables were excluded.
4.8.1 Analysis of health care providers’ attitudes and socio-demographic characteristics

Table 4.10 Association of levels of attitudes and socio-demographic characteristics of health care providers, Zambezi region, 2018

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PA N (%)</th>
<th>NA N (%)</th>
<th>OR</th>
<th>95% C.I</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>17 (17.3)</td>
<td>7 (7.1)</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>21 (21.4)</td>
<td>14 (14.3)</td>
<td>0.61</td>
<td>0.19-1.89</td>
<td>0.42</td>
</tr>
<tr>
<td>40+</td>
<td>28 (28.6)</td>
<td>11 (11.2)</td>
<td>1.0</td>
<td>0.32-3.26</td>
<td>1.00</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>53 (54.1)</td>
<td>8 (8.2)</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13 (13.3)</td>
<td>24 (24.5)</td>
<td>0.08</td>
<td>0.03-0.23</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Age group 40 and above demonstrated more positive attitudes (28.6%) than any other age group, however the findings showed no statistical significant in the association between age group and level of attitudes (Odd ratios are 0.61 and 1.0, Confidence intervals contain 1 and P-values are greater than 0.05).

Majority 53 (54.1%) of the female health care providers had positive attitudes, however no statistical significance was found in the association between sex and attitude levels (odd ratio 0.08).
4.8.2 Analysis of women accessing of ANC and family planning services

Table 4.11 Association of levels of knowledge and socio-demographic characteristics of women accessing ANC and family planning services

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>AK N (%)</th>
<th>IK N (%)</th>
<th>OR</th>
<th>95% C.I</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current resident</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>16 (16.3)</td>
<td>41 (41.8)</td>
<td></td>
<td>0.52</td>
<td>0.18-1.4</td>
</tr>
<tr>
<td>Rural</td>
<td>7 (7.1)</td>
<td>34 (34.7)</td>
<td>0.52</td>
<td>0.18-1.4</td>
<td>0.24</td>
</tr>
</tbody>
</table>

| **Employment status** |          |          |      |           |         |
| Employed           | 17 (17.3)| 19 (19.4)|      |           |         |
| Unemployed         | 6 (6.1)  | 56 (57.1)| 0.1  | 0.03-0.34 | 0.00    |

Among the women respondents, those in urban areas showed more adequate knowledge (17.3%) than those in rural areas (7.1%), however no statistical significance was found in the association between current resident and level of attitudes (confidence interval contain 1, odd ratio is 0.52 and P-value is greater than 0.05).

Those who were employed (17.3%) among all the women were found to have more adequate knowledge than those who were not employed (6.1%), however no statistical significant association was found between employment status and level of knowledge (odd ratio is 0.1).
4.9 SUMMARY

This chapter presented the study findings in tables, figures and pie charts.

Health care providers were found to have adequate knowledge on breast cancer screening, positive attitudes was indicated by more than half of them, however their practices were poor.

Women accessing ANC and family planning services had inadequate knowledge towards breast cancer screening and it was found that the health care providers hardly shared information on breast cancer screening with women who accessed ANC and family planning services.

All results are discussed in details in the next chapter, where possible reasons for the findings are explained and the results are related to other previous findings.
Chapter 5: DISCUSSIONS

5.1 INTRODUCTION

In this chapter the main findings of the study presented in the previous chapter are discussed and are related to other studies conducted in different study settings. The researchers’ views are also included in the discussion.

5.2 SOCIO-DEMOGRAPHIC FACTORS

The health care providers were mostly of the age group of 40 and above years old. More than half of the health care providers were females. Most of them were married while the enrolled nurse profession was leading. Majority of the health care providers had been in service for 5-9 years.

Among the women accessing ANC and family planning services, most of them were between the ages of 30-39 years. Many were residing in rural areas and were mostly married. The number of children per women were mostly 1-3, most of them have at least reached secondary school level.

5.2.1 Age

The majority of the health care providers in this study were in the age group of 40 and above years old, followed by the age group of 30-39 years.

A similar study that assessed women in Uganda found that most were in the age group of 40-49 (44%), followed by 30-39 (28%) age group (30). This study’s findings show that the majority of women respondents who accessed ANC and family planning services were in the age group of 30-39 years. This could be
attributed to the fact that in Namibia the child bearing age is 15-49 years old (31), as they are the ones who accessed family planning services, the number of women who gave birth in Zambezi region according to the 2011 census was estimated to be 2880, these are the ones who are more likely to attend ANC services.

Findings of this study indicate that health care providers who were in the age group of 40 and above years demonstrated higher positive attitudes towards breast cancer screening than any other age group, this could be because they could have more experience and could have come across cancer cases than the younger age groups (own view).

Literature from Brazil stated that the age factor has been identified as a determinant in adherence to the methods of early detection of breast cancer, it further revealed that younger women have been more adept at methods of early breast cancer detection compared to their older counterparts (32).

5.2.2 Sex

The findings of this study revealed that most of the health care providers were females, this could be explained by women making up most (61%) of the Namibian population (12). The female health care providers scored high on attitude specific statements, although no association was established between sex and level of attitudes.

Literature revealed that women health care providers schedule more preventive care visits than their male counterparts, they have integrated more preventive care measures and screening into their practices, especially breast cancer detection (32), therefore it is an important determinant in breast cancer screening even among health
care providers. Women in health professions differed from men in their communication styles, they were more likely to value psychosocial factors in patient care, educate and counsel patients about health problems, including breast cancer (32).

5.2.3 Marital status

In Namibia 59.5% of the population eligible to be married were not married (29), however in this study more than half of the health care providers were married, they demonstrated high level of knowledge regarding breast cancer screening, this could be associated with other studies that had revealed that being married was associated with increased utilization of breast cancer screening (32). Similarly a study done in Califonia revealed a positive association between being married and having been screened for breast cancer, and also having positive attitude towards breast cancer screening (32). More than half (72.8%) of female health care providers in Nigeria were married, in contrary their knowledge level towards breast cancer screening was low, and they had poor practices (8).

More than half of the women respondents in this study were married, this could be attributed to the fact that most women in Zambezi region are married traditionally through the paying of bride price “lobola” and consider it to be marriage, even if it may not be recognized by law (own view), in addition they had low levels of knowledge regarding breast cancer.
5.2.4 Type of profession

Among men in Zambezi region, 12% of them and 14.6% of women had professional employment (12), these explains why most health care providers in this study were females. The study revealed that among health care providers, nurses were the majority (76.5%), doctors just made up 4.1% ,this could be the reason why practices were found to be poor (own view), most doctors have very busy schedules and they were mostly at the general hospital then in the other facilities.

A study among health care providers in Nigeria showed that most (26%) were doctors, followed by 9.4% being nurses.

5.2.5 Number of years in service

Literature showed that the number of years in service can be a contributing factor to the level of knowledge, attitudes and practices of health care providers towards breast cancer screening. The more years practiced in service, the higher the level of practice (8), this was seen in those who had been in service for over 30 years in Nigerian urban city, who demonstrated 100% BSE practice (8).

This study revealed that most health care providers had been in service for 4-9 years, had adequate knowledge, however their practices were found to be poor, this could be due to lack of availability of screening facilities in the region (5).
5.2.6 Current resident

More than half (58%) of the women respondents lived in rural areas, and inadequate knowledge level was observed in most of them, compared to those in urban areas, this could be because screening facilities are rarely found in rural areas and thus they could be ignorant of breast cancer information (own view). In line with these findings is a study conducted among rural women in South Africa that showed low levels of knowledge and poor practices towards breast cancer screening (10).

5.2.7 Number of children

Most women respondents had 1-3 children, similarly a study conducted in Windhoek, Namibia showed that most women had 2 children, followed by those who had only 1. It was however not established if this influenced their knowledge, attitudes and practices towards breast cancer screening in any way, however women in this study were found to have poor knowledge with regards to breast cancer and screening.

A study conducted among Korean women showed that assessing perceived barriers to breast cancer screening proved that the number of children and marital status statistically affected the domains of adherence to breast cancer screening, with perceived susceptibility being higher in married women with one to three children (32).
5.2.8 Level of education

According to the DHS, most (57.8%) of women in Zambezi region had at least reached secondary school level, however only 15.0% were found to have completed their secondary education (12). Findings of a KAP study conducted in Windhoek, showed a trend of the majority (64.5) of the women having had reached secondary education too, however among Ugandan women, less than half (44%) had at least reached secondary education (30).

Findings in this particular study showed that only 18.4% of the women respondents had at least reached tertiary education level, thus this could be associated with their inadequate knowledge regarding breast cancer and screening. Some literature in support of these findings revealed that; level of education influenced uptake of breast cancer screening services (10). In a Mexican study among women, variables associated with breast cancer screening were related to educational level, and the use of breast cancer screening services was found to be directly linked to the years of formal education and level of knowledge on breast cancer screening (32).

5.2.9 Employment status

Less than half (43%) of Namibian women are employed; in Zambezi region 25% of women were found to be employed (12), this could explain the findings of this study that found most of the women respondents to be unemployed. Similarly, 40.3% of the women in Windhoek were found to be employed (7), this is in line with a study conducted in Uganda that found only 43% of women employed.
Findings of this study revealed that women who were employed had better knowledge than their counterparts. This was supported by literature that revealed that; employment status determined one’s ability to access health care services, and that the type of occupation showed an association with breast cancer screening (10).
5.3 SOURCE OF INFORMATION ABOUT BREAST CANCER

According to the findings of the study, majority of women who accessed ANC and family planning services in Zambezi region indicated their source of information for breast cancer screening to be family/ friends, followed by Television/Radio, Newspaper, Health pamphlets and rarely health care providers, this could be because they indicated not being given any information on breast cancer and screening during their routine health facility visits.

Findings from other studies revealed that advice from health care providers is regarded as one of the most important determinant for participating in breast cancer screening (32). Most women at an eligible age for breast cancer screening in Toronto were rarely offered the opportunity to discuss or initiate screening, even though awareness is promoted (33).

Most Namibian women between the ages of 15-49 years were exposed to the Radio (58.4%), followed by Television (36%) and newspapers (17.9%) on a daily basis, this was revealed in the DHS (12). A study conducted in Windhoek indicated that the preferred source of information for women regarding breast cancer awareness was Televisions /radio (32.6%), followed by friends (7%), this study assessed women on breast cancer knowledge, attitudes and practices including other determinants that influence early detection (7). Literature in South Africa proved that information on breast cancer was mostly disseminated through the media instead of health facilities, and thus more awareness at health facilities was needed (10).
5.4 BREAST CANCER AND SCREENING KNOWLEDGE

Knowledge among health care providers was found to be adequate in 94.9% of them, most of them were able to define breast cancer, identify risk factors and clinical features. Over half of them (56.1%) correctly indicated the right age for women to start going for breast cancer screening, and indicated that women should be screened annually. Majority agreed that women accessing family planning and ANC services should be informed about breast cancer and screening, however less than half knew that breast cancer can affect both males and females.

In opposition to this study’s findings is a study conducted in Nigeria that found that health care providers had poor knowledge levels (55.0%), however nurses in Singapore demonstrated a high level of knowledge (8). In a study conducted in Saudi Arabia, it was revealed that female general practitioners had satisfactory level of knowledge on breast cancer risk factors and more than half (86%) were aware of the signs and symptoms of breast cancer (34).

Among the women respondents in this study, inadequate knowledge regarding breast cancer and screening was found. Knowledge could influence health seeking behaviour and change attitudes towards breast cancer screening, poor knowledge is responsible for late detection, this was revealed in a South African study that found low levels of knowledge, negative attitudes and poor practices among women (10).
5.5 ATTITUDES TOWARDS BREAST CANCER AND SCREENING

Research has revealed that attitudes of health care providers are statistically significantly associated with women’s participation in breast cancer screening (32). Overally the results of this study showed that less than half (44%) of the health care providers have inadequate knowledge on breast cancer screening and 33% felt that it was not their responsibility to encourage clients on breast cancer screening.

The above findings could be related to findings in a study conducted in Toronto, which revealed that two thirds of physicians would only screen for breast cancer if patients requested, atleasst 40% of them did not think breast cancer screening was necessary and less than half routinely offered screening services to women at an average risk of breast cancer (33). Meanwhile in Denmark health care providers had positive attitudes towards breast cancer screening (32).

5.6 PRACTICES TOWARDS BREAST CANCER AND SCREENING

Health care providers play an important role in performing and referring clients for breast cancer screening. In this study health care providers showed a lower level of practices, this could result from limited breast cancer screening services in Africa, as revealed in a report on epidemiology of breast cancer in Africa (5).

Over half (60.2%) of the health care workers in Zambezi region indicated that they had never screened a patient for breast cancer and most of them had never been personally screened. Similarly, a study conducted in Nigeria indicated a low level of practices among health care providers (8), in opposition to this findings is a study conducted among health care providers in Saudi Arabia, which revealed that health care providers had good practices (34).
5.7 SUMMARY

This chapter highlighted some similarities and differences of this study with other similar literature, thus it adds to the literature already known on knowledge, attitudes and practices towards breast cancer and screening, especially among health care providers. This will also benefit women who are at a high risk of developing breast cancer, through awareness and encouragement during routine health facility visits.
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter discusses the conclusions drawn from the study findings in line with the study objectives, and the recommendations based on the evidence found are also presented.

6.2 CONCLUSIONS

This study revealed that health care providers generally had adequate knowledge concerning breast cancer and screening, however they had low levels of practices. It was established in this study that health care providers had moderately good attitudes towards breast cancer screening, however their ages and sex were found to have no association with their attitudes.

Routine services such as ANC and family planning are a good opportunity for health care providers to encourage clients on breast cancer screening and other health issues, however this study revealed that they hardly shared such information with clients, thus women accessing these services had inadequate knowledge about breast cancer and screening in general. The few that had knowledge on breast cancer and screening obtained the knowledge from friends/ families and through mass media such as radio and television.

This study provides insight about the knowledge, attitudes and practices of health care providers, as well as knowledge and source of knowledge for women who attend ANC and family planning services on breast cancer and screening, thus it will serve as basis to direct policy makers on how to implement ways to increase breast cancer screening knowledge and uptake.
6.3 RECOMMENDATIONS

6.3.1 Ministry of health and social services

- The ministry should implement breast cancer screening workshops for health care providers.
- The ministry should make it compulsory for women accessing ANC and family planning services to be taught how to perform CBE by health care providers.
- Encourage health care providers to practice breast cancer screening and encourage their clients to uptake screening services.
- Create awareness on breast cancer screening through mass media to target a larger audience.

6.3.2 Future studies

This is a quantitative study which was not able to capture factors influencing poor attitudes, low level practices among health care providers. A further case control study on those factors will shed some light and further direct action to help increase screening uptake.

6.4 SUMMARY

Chapter 6 highlighted conclusions from the study findings in relation to the study objectives. These findings provide justification for the Ministry of Health and Social Services to implement awareness campaigns on breast cancer screening among health care providers and women in Zambezi region.
7. REFERENCES


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ANNEXURE A: UNAM RESEARCH APPROVAL

RESEARCH PERMISSION LETTER

Student Name: A K Likando
Student number: 20042917
Programme: M in Field Epidemiology

Approved research title: Health care providers knowledge, attitudes and practices towards breast cancer screening in Zambezi region.

TO WHOM IT MAY CONCERN

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

[Signature]

Name: Dr Marius Hedimbri
Director: Centre for Postgraduate Studies
Tel: +264 61 2060275
Email: directorpas@unam.na
ANNEXURE B: UNAM ETHICAL REVIEW COMMENTS

Faculty of Health Sciences: Institutional Review Board
Reviewer Name: Dr H K Mitonga

Title of Proposal: HEALTH CARE PROVIDERS KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS BREAST CANCER SCREENING IN ZAMBEZI REGION

GENERAL COMMENTS

The topic is relevant as it addresses the crucial component in Breast cancer. The findings for the study will add value to the existing knowledge.

SPECIFIC COMMENTS

Problem statement:
The problem statement is clear and is in line with the research topic and objectives.

Objectives of the study:
The objectives are corresponding with the problem statement and the research topic.

Literature review:
Student conducted literature review, though it is mostly on Nigeria and Kenya. There is little written about Namibia, and that could be attributed to lack of documentation in the Namibian context.

Research methods:
The cross-sectional design which will be applied for the study is appropriate to answer/address the research objectives. The sample size and how it is calculated is explained.

Research Ethics
The researcher has indicated that the research ethical principles will be adhered to. The researcher will seek for approval from the relevant bodies, informed consent from participants, and participation will be voluntarily, confidential information will be treated as such, and there will be no harm to participants. The researcher demonstrates a good understanding of the research ethical considerations.

Questionnaire
The questionnaires for both health care providers and women who come for screening are having questions that cover the objectives of the study.
OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3 AL
Enquiries: Mr. Nghipangelwa

Date: 20 December 2017

Ms. Annetty Likando
University of Namibia
Windhoek

Dear Ms. Likando

RE: Health care providers’ knowledge, attitudes, and practices towards breast cancer screening in Zambezi Region. A cross sectional study

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. Kindly be informed that permission to conduct the study has been granted under the following conditions:

3.1 The data to be collected must only be used for academic purposes;
3.2 No other data should be collected other than the data stated in the proposal;
3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects’ should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
3.4 A quarterly report to be submitted to the Ministry’s Research Unit;
3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry of Health and Social Services for the publication of the findings.

Yours sincerely,

Ms. P Masabane
Acting Permanent Secretary

"Your Health Our Concern"
ANNEXURE D: PARTICIPANTS’ INFORMATION AND CONSENT FORM

My name is Annety Kabuba Likando, I am a student who is studying towards a Master’s degree in Applied Field Epidemiology and Laboratory management at the University of Namibia, under the supervision of Dr. Solomon Yigeremu and Dr. Kofi Nyarko.

I would kindly ask you pay attention while I am explaining to you about the study I am conducting:

The title of the study is “HEALTH CARE PROVIDERS AND WOMEN ACCESSING ANTE-NATAL CARE AND FAMILY PLANNING SERVICES’ KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS BREAST CANCER SCREENING IN ZAMBEZI REGION”

The aim of the study

The study seeks to collect data in order to assess knowledge, attitudes and practices of health care providers, attitudes and source of information for women accessing antenatal care and family planning services with regards to breast cancer screening in Zambezi region, the study will provide information that will help in improving the Knowledge, Attitudes and Practices of health care providers towards breast cancer examination, thus help improve breast cancer screening uptake and help reduce breast cancer mortality through early detection among women.
This is the reason that you were randomly selected to participate in the study. Once you have agreed to enroll in the study, I will be interviewing you using a questionnaire to provide me with information that is helpful for the study.
Ethical consideration

You will not be required to undergo any medical examination or procedure for this purpose.

There would not be any payment given to you however by participating in this study, you are contributing to the wellbeing of the nation.

Your names will not be asked and will not be used in connection with any of the information you are going to provide.

You are at freedom not to answer any question that you do not want to answer. You are free to withdraw from the study at any stage if you become uncomfortable without any penalty.

Approval for the study

The study has been approved by the ethical committee of the University of Namibia, the Ministry of Health and Social services as well as the Zambezi regional health directorate.

The study findings of the study

The findings of the study will be communicated in a thesis form to the University of Namibia, as well as Ministry of Health and Social Services resource Centre in Windhoek.

If you have any question or concerns about the study, you can go ahead and ask or contact:
1. Dr. Solomon at 0817202201 or Email syigeremu@unam.na (Main Supervisor)

2. Dr Kofi Nyarko at 081 3667332 or email konyarko22@yahoo.com (Co-supervisor)

3. Ms A. Likando (Researcher) at 0812901437 or email annetylikando@yahoo.com

4. Research Unit in the Ministry of health and Social Services, Tel: 0612039111.
Declaration for voluntary consent

I agree that the person asking for my consent to participate in this study has explained what it is all about. I have had the opportunity to ask questions about the study and any questions I have asked have been answered to my satisfaction.

I have also received the above written information and have understood it.

I clearly understand:

- The purpose of the study, the procedures, the benefits, the rights of participating and the contact address for any queries
- That No harm will be caused to me as a result of the study
- That the information concerning me will be treated confidential, and will not be made available to any other person
- That I can withdraw from the study at any point without any penalty
- The study will contribute towards the benefit of the region in terms of breast cancer screening uptake
- I will not be paid for participating in the study

Signed……………………………at……………………………………On………………………….

…………………………
ANNEXURE E: DATA COLLECTION TOOL FOR HEALTH CARE PROVIDERS

Questionnaire Number _______

Date of interview ___________

INSTRUCTION: TICK (✓) THE MOST APPROPRIATE RESPONSE

SECTION A: SOCIO-DEMOGRAPHIC INFORMATION

1. To what age group do you belong?
   20-29  [☐]  30-39  [☐]  40 and above  [☐]

2. What is your sex?
   Male  [☐]  Female  [☐]

3. What is your marital status?
   Single  [☐]  Married  [☐]  Widowed  [☐]  Divorced  [☐]

4. What is your profession?
   Medical doctor  [☐]  Registered nurse  [☐]  Enrolled nurse  [☐]
   Health extension worker  [☐]

5. How long have you been in service?
   Less than a year  [☐]  1-4 years  [☐]  5-9 years  [☐]
   10 years and above  [☐]
SECTION B: KNOWLEDGE ON BREAST CANCER

1. What is breast cancer?
   - Lump in the breast [ ]
   - Abnormal growth of cells in the breast [ ]
   - Painful breasts [ ]
   - Others (specify) ___________________

2. What are the clinical features of cancer? (You can select more than 1)
   - Breast lump [ ]
   - Swollen axillary glands [ ]
   - Weight loss [ ]
   - Inverted nipples [ ]
   - No signs/symptoms [ ]
   - Abnormal discharge from breast [ ]
   - Soreness in the breasts [ ]
   - Change in menstrual cycle [ ]
   - Discoloration of breast [ ]
   - Inversion of nipples [ ]
   - Swelling of breasts [ ]
   - Dry breast skin [ ]
   - Hair loss [ ]

3. What are the potential risk factors of breast cancer (more than 1 answer is desirable)?
   - Increasing age [ ]
   - Positive family history [ ]
   - High fat diet [ ]
   - Smoking and drinking [ ]
   - First child at an early stage [ ]
   - Stress [ ]
   - Large breasts [ ]
   - Other (specify) ________________
4. What are your views on breast cancer screening?

- Early screening prevents breast cancer
- Early screening reduces breast cancer deaths
- Screening leads to the loss of breast tissue
- It is for those already diagnosed with breast cancer
- It is not necessary

5. Is breast cancer treatable?  Yes ☐  No ☐

6. At what age should women go for regular breast cancer screening?

- Below the age of 14 years ☐  15 years ☐
- 20 years ☐  30 years ☐  40 years ☐  Over 40 years ☐

7. How often should women go for breast cancer screening?

- Once a year ☐  Twice a year ☐  Not sure ☐
- Personal choice ☐  they do not have to ☐

8. Should women who access family planning and ante-natal services be screened and taught about breast cancer screening?

- Yes ☐  No ☐

9. What are the methods of breast cancer screening?

- Breast self-examination ☐
- Clinical breast examination ☐
- Mammogram ☐
- Magnetic Resonance imaging (MRI) or Ultrasound ☐
- Do not know ☐
10. Does Breast cancer affect males too or just females

Females only  □  Males too  □
SECTION C: ATTITUDES TOWARDS BREAST CANCER SCREENING

1. Breast cancer is a serious disease  Agree  □  Disagree  □  Do not know □

2. It is important to go for regular breast cancer screening
   Agree  □  Disagree  □  Do not know □

3. Health care providers should also go for regular breast screening
   Agree  □  Disagree  □  Do not know □

4. Breast cancer screening reduces breast cancer mortality
   Agree  □  Disagree  □  Do not know □

5. It is the responsibility of health care providers to encourage clients on breast cancer screening
   Agree  □  Disagree  □  Do not know □

6. There is a need to sensitize the public on breast cancer screening
   Agree  □  Disagree  □  Do not know □

7. Advertisement through the radio can improve breast cancer screening uptake?
   Agree  □  Disagree  □  Do not know □

8. Making breast cancer screening a routine check-up for every client help increase screening uptake
   Agree  □  Disagree  □  Do not know □

9. It easy to inform clients about breast cancer screening as a routine check-up
   Agree  □  Disagree  □  Do not know □

SECTION D: PRACTICES TOWARDS BREAST CANCER SCREENING
1. Have you ever been clinically screened for breast cancer?
   
   Yes ☐ No ☐

2. How long ago was it? Only (if you said yes to question 1)
   
   Less than a month ago ☐ Less than 6 months ago ☐
   Less than a year ago ☐ over a year ago ☐

3. Have you ever screened a patient for breast cancer? Yes ☐ No ☐

4. if yes in 3 above, did you teach the clients you screened how to do breast self-examination?
   
   No ☐ Yes ☐

END OF QUESTIONNAIRE
ANNEXURE F: DATA COLLECTION TOOL FOR WOMEN ACCESSING ANTE-NATAL CARE AND FAMILY PLANNING SERVICES

Questionnaire Number______

Date of interview ____________

Instruction: Please Tick (√) where appropriate

Section A: Socio-demographic characteristics

1. To which age group do you belong? (Tick only one)
   15 – 19 years □ 20 – 29 years □ 30 – 39 □
   40 – 49 years □ 50 years and above □

2. What is your sex? (Tick only one)
   Female □ Male □

3. Where do you live? (Tick only one)
   Urban □ Rural □

4. What is your marital status? (Tick only one)
   Single □ Married □ Widowed □ Divorced □

5. Are you employed? Yes □ No □

6. How many children do you have? (Tick only one)
   None □ 1-3 Children □
   4-6 Children □ More than 6 children □
7. What is your educational Level (Tick only one)

- No formal education at all
- Primary education (1-6 grades)
- Secondary education (7-12 grades)
- Tertiary (above grade 12)
Section B: Knowledge on breast cancer

1. Have you ever heard of breast cancer?
   Yes [ ]  No [ ]

2. What is breast cancer?
   Lump in the breast [ ]  Cancer of the breast [ ]  Don’t know [ ]
   Other (Specify) ________________________________

3. Is breast cancer common in your region?
   Yes [ ]  No [ ]

4. Can breast cancer be treated?
   Yes [ ]  No [ ]

5. Have you ever heard of breast cancer screening?
   Yes [ ]  No [ ]

6. If yes, which source of information did you hear about it?
   Friends/ family [ ]  Books [ ]  School [ ]  Church [ ]  Newspaper [ ]
   Television/ Radio [ ]  Health care provider [ ]  Health pamphlet [ ]
   Other (Specify) ________________________________

7. Can breast cancer screening improve chances of survival?
   Yes [ ]  No [ ]  Don’t Know [ ]
8  How is breast self-examination done?

Palpate with one finger

Palpate with three fingers

Palpate with the whole hand

Anyhow

Section C: Information regarding breast cancer in relation to family planning and ANC visits

1. What services have you come for?

Antenatal care  ☐  Family planning service ☐

2. Were you informed about breast cancer screening during any of your family planning/antenatal care visits?

Yes  ☐  No  ☐

3. Have you been told how to perform breast self-examination during your family planning and ANC visits?

Yes  ☐  No  ☐

4. Have you ever been screened for breast cancer by a health care provider during any of your family planning and ANC visits?

Yes  ☐  No  ☐

END OF QUESTIONNAIRE