BREAST SELF EXAMINATION PRACTICES AMONG RURAL (SOLWEZI) AND URBAN (LUSAKA) WOMEN

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BY

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THE UNIVERSITY OF ZAMBIA.

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2006

DECLARATION

This Dissertation is the original work of **Florence C. Mukupo.** It has been prepared in accordance with the guidelines for MSC (N) Dissertation of the University of Zambia. It has not been submitted elsewhere for a Degree at this or another University.
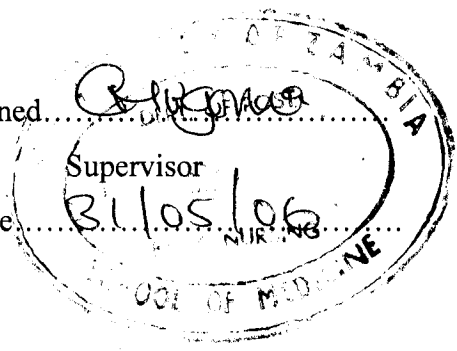
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CERTIFICATE OF APPROVAL

This Dissertation of **Florence C. Mukupo** is approved in partial fulfilment of the requirement for the award of the Msc (N) Degree by the University of Zambia.

Examiners

Signed...Date..................................
        Examiner 1

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        Examiner 2

ABSTRACT

Breast cancer is a significant health threat for women and is currently the second- leading cause of cancer related deaths in women. Breast cancer is the second most common cancer of women in Zambia. Breast cancer screening has been shown to reduce mortality. Thus early detection is crucial. World Health Organization does not recommend mammography screening in developing countries because it is not cost effective. Breast Self Examination (BSE) is an alternative method of screening for breast cancer. BSE is recommended for all women over the age of 20. Despite this recommendation, adherence to BSE guidelines is quite low.

Study Design

The purpose of the current study was to compare knowledge and use of BSE among rural and urban women. The study also sought to detect associations between the study variables.

Study Setting

The study was conducted in Solwezi and Lusaka Districts.

Sampling

Simple random sampling was utilized to select the wards were the research was conducted. The using systematic sampling, households were selected. Then all women in childbearing age who met the inclusion criteria were interviewed. The age range was 15-49years because cancer of the breast has a high prevalence in this age group. A total of 238 respondents took part in the study.

Instrument

Data was collected using an interview schedule.

Analysis

Data analysis was done using **EPI info** statistical package.

Results

The study showed that most of the respondents, 58.2% from urban area and 81.9% from rural area had no knowledge on breast cancer. The study also showed that BSE knowledge was low among the respondents. The majority of the respondents 84.5% in rural and 64.7% from urban area had no knowledge on BSE.

BSE practice results showed that the majority of the respondents were not practicing BSE. The study concluded that both the knowledge and practice of BSE were low in both rural and urban areas.

The study recommended that Primary health care workers should be trained to teach Breast self-examination (BSE). The MoH/CBoH should develop teaching manuals for use by health providers during BSE teaching so that there is consistence and uniformity in BSE information to the women. The MoH/CBoH should ensure that nurses' knowledge and skill in BSE should be improved through re-training so that they could give expert instructions to women in relation to BSE technique. Breast Awareness, which is advocated in place of routine breast examination, should be encouraged among women. Health providers should continue to initiate discussions on BSE and the importance of periodic check up that include Clinical Breast Examination (CBE) for all women.

Women should be taught to request for CBE even if their initial visit has nothing to do with clinical breast examination. Nurses teaching BSE must emphasize that early detection and treatment enhances survival. School Health Programs should include health education on breast cancer and BSE so that these educational programs on BSE start as early as 12 years of age, so that the girl child could start BSE early and become familiar with her breasts.

Health providers should display BSE posters in all examination rooms in clinics and hospitals. Men should be involved in BSE teaching for they can act as support group to women. Breast Cancer Trust, MoH/CBoH should reinforce educational programs on breast cancer and BSE on the media by including these educational programs in local languages.

DEDICATION

This study is dedicated to my children Amittai and Chewe, who have been my source of inspiration.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

BSE...Breast Self Examination

CBE...Clinical Breast Examination

CBoH...Central Board of Health

CSO...Central Statistics Office

MoH...Ministry of Health

NGO...Non-Governmental Organization

UTH...University Teaching Hospital.

ZDHS...Zambia Demographic Health Survey

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND INFORMATION

Breast Cancer is one of the commonest causes of death in many developed countries in middle aged women and it is becoming frequent in developing countries as well. Breast cancer causes 376,000 deaths a year worldwide; about 900,000 women are diagnosed every year with the disease. More than half of these are in industrialized countries. Mortality rates from breast cancer have increased during the recent past. It has now become a prominent women's health problem representing 28% of all female concerns (Park, 2002; Zapka, 1992).

1.1.1 Women in Zambia

Zambia's total population is estimated at 10.3 million people. Of this, about 51% are females. Despite the predominance of females, gender imbalances, which do not favour women exist in Zambia's socio-economic, cultural and political sphere. These imbalances have prevented women from effectively contributing to and benefiting from development process (ZDHS, 2000-2002).

1.1.2 Educational Attainment

The Zambia Demographic and Health Survey (ZDHS, 2000-2002) shows that about 13% of women in urban and 32% of women in rural areas have no education. The report further reveals that women make up to 41% of adult population who are unable to read and write. This means that women's relative lack of education and training contribute to their lower earnings. Employers use lack of education and experience as a screening device to exclude women.

1.1.3 Employment Opportunities

Employment opportunities for women are limited given their educational background. In employment, women are treated as minors who could not do

certain jobs or even own certain assets without consent from fathers, husbands and uncles (ZDHS 2000-2002).

The report further reveals that 78% of women are engaged in agricultural work and are self-employed and do not receive any payment. The concentration of women in the informal sector and in unpaid family labour and other inferior forms of employment suggest that their engagement in economic activities may not be empowering. The report further reveals that women who are married are less likely to make exclusive decisions on how to spend their earnings. This implies that most women are obliged, coerced or predisposed to allocate their own income towards household or family rather than their own personal needs.

In view of the above reasons, even if mammogram services were available locally, most women would be unable to access mammography due to financial constraints. In addition, the low literacy levels among women have contributed to their failure to make decisions on matters concerning their health.

1.2 INCIDENCE OF BREAST CANCER

In Africa, breast cancer incidence is rising. In Libya, between 1981-1985 breast cancer was the most frequent tumour and the majority of those cases were of a younger age group of below 50 years. In Uganda, the incidence is 16.4 per 100,000 and 80% of cancer patients present to the hospital late in inoperable stage hence curative surgery is not possible. In Tanzania, 1028 cases were notified between 1974-1987. Of these, 8.0% were below thirty years. The peak prevalence was found in the 35-44 years age group (Amir, et al 1994).
In Zambia, the incidence is rising and cases are being recorded in women less than thirty years.

Breast cancer risk increases with age. Usually breast cancer may develop anytime after puberty, but about 70% of cases develop in women over 50 years.

This trend has changed in the recent past. Breast cancer is now being recorded in women less than thirty years (Nzarubara, 1999; Akhtar, 1999).

The causes of breast cancer are elusive, but there are risk factors associated with its occurrence such as nulliparity, high intake of fat and diet high in calories, Alcohol consumption, age and early menarche (Park, 2002; Heitkemper, 1999; Zapka, 1992).

1.3 STAGES OF BREAST CANCER

Breast cancer has been described in stages and generally there are four stages of breast cancer. McMahon, et al (1993) describes them as follows:

1.3.1 Stage 0

This stage is used to describe non-invasive breast cancer. During this stage, there is no evidence of cancer cells breaking through to or invading normal tissue.

1.3.2 Stage 1

This stage describes invasive breast cancer. Cancer cells are breaking through to and are invading neighbouring normal tissue. The tumour measures up to 2cms and there are no lymph nodes involved.

1.3.3 Stage II

This stage describes invasive breast cancer in which the tumours measures at least 2cms but not more than 5cms or cancer has spread to the lymph nodes under the arms on the same side as the breast cancer. Affected lymph nodes have not yet stuck to one another or to the surrounding tissues, a sign that the cancer has not yet advanced to stage III. The tumour in the breast can be of any size

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1.3.4   Stage III

Stage III is divided into subcategories knows as IIIA and IIIB.

1.3 4.1.Stage IIIA

This stage describes invasive breast cancer in which the tumour measures larger than 5cms or the tumour has spread to lymph nodes and the nodes are clumping or sticking to one another or surrounding tissue.

1.3.4.2 Stage IIIB

This stage describes invasive breast cancer in which the tumour of any size has spread to the breast skin, chest wall or internal mammary lymph nodes located beneath the breast inside the chest and includes inflammatory breast cancer.

1.3.   5 Stage IV

This includes invasive breast cancer in which the tumour has spread beyond the breast, under the arm and internal mammary lymph nodes. The tumour may have spread to the supraclavicular lymph nodes, lungs, liver, bone or brain.

1.4 BREAST CANCER TREATMENT

There are various treatment options that can be used to treat breast cancer. The choice of treatment usually reflects the disease stage and type, the woman's age and menopausal status. Therapy may include any combination of surgery, hormonal therapy and radiation.

1.4.1   Surgery

For well over a century, surgery has been the first line of attack against breast cancer. But things have changed in the recent years. Today, the goal is precise, targeted surgery that aims to preserve as much of the healthy breast and surrounding areas as possible. Even mastectomy is more refined, less drastic option than it was a generation ago. The most important of these deciding factors are: the stage of cancer, the type of cancer and what is acceptable to the

patient in terms of long-term peace of mind. There are many different terms used to describe the kinds of surgery that can be done, but there are mainly two main options.

1.4.1.1 Lumpectomy or Quadrantectomy is an operation in which only the tumour is removed from the breast. This is usually followed by radiation therapy to the remaining breast tissue.

1.4.1.2 Mastectomy is an operation in which the whole breast is removed. Sometimes radiation is given after mastectomy.

For invasive breast cancer, both of these procedures may also be accompanied by axillary lymph node dissection. Thereafter the patient may be put on chemotherapy. The need for systemic treatment is based on the tumour grade. The higher the chance of re-occurrence the more useful chemotherapy is.

1.4.2   Radiotherapy

Radiation refers to the use of ionising radiation to treat tumours. It is highly target, highly effective way to destroy cancer cells that may linger after surgery. This reduces the risk of recurrence. Despite what many women fear, radiation therapy is relatively easy to tolerate, and the side effects are restricted to the area being treated. Because it is so effective and relatively safe, radiation therapy has a defined role in treating breast cancer in all of its stages, from stage 0 through stage IV. It may be also appropriate for women who have had lumpectomy or mastectomy.

1.4.3   Chemotherapy

Chemotherapy is a systematic therapy; this means it affects the whole body by going through the bloodstream. The purpose of chemotherapy and other systematic treatments is to get rid of any cancer that may have spread from where the cancer started to another part of the body. Chemotherapy is effective against cancer cell because the drugs interfere with rapidly dividing cells.

1.4.4   Hormonal Therapy

Hormonal therapy lowers levels of oestrogen and other hormones suspected of nourishing breast cancer cells. For example, antiestrogen therapy specifically tamoxifen 40mg daily for 2 years is used in postmenopausal women (Smeltzer, et al 2000; Lewis, 1996; McMahon, et al 1993).

1.5 DETECTION METHODS OF BREAST CANCER

Since reduction in mortality depend on increasing the adoption of early detection methods by physician and by women, numerous Professional Organisation have endorsed screening guidelines for all women. The three key ways of detecting breast cancer early are: Breast Self Examination (BSE), Clinical Breast Examination (CBE) and Mammography.

1.5.1 Breast Self Examination (BSE) involves the woman examining her breasts regularly and at specified intervals. The woman herself examines the breasts monthly after one to two days after her menstrual period when the breasts are not tender or swollen (Harkness, et al 1996).

BSE has been endorsed for all women over the age of 20 years as a suitable method of detecting breast cancer in its earliest and most curable stages. Post menopausal women and women who have had hysterectomies should set a regular date for monthly BSE. The monthly date of one's birthday or the first days of the month are common choices for many women.

Breast Self Examination is a simple, cost effective and non-invasive procedure that can easily be taught to all women. Several studies have associated BSE with smaller tumour size and less axillary node involvement at diagnosis as well as with improved survival rates that range from 15 – 30% in regular examiners who present with tumours (Berkow, 1997).

Since Clinical Breast Examination (CBE) and mammography are inaccessible to most women, therefore, BSE is the best alternative for women in Zambia. It is cheap and may offer an opportunity to find a breast tumour while it is still small and in a curable stage.

1.5.2 Clinical Breast Examination is another method that could be used to detect breast cancer. It involves physical examination of the breast by a trained health professional every three years between the ages of 20 and 40 and every year thereafter. The frequency of these examinations is determined by the woman's age, presentation of significant risk factors and her past medical history (Heitkemper, 1996).

In Zambia, clinical breast examination is only conducted when a woman attends family planning and antenatal clinics. However, there are no guidelines as to when and where women should go for clinical breast examination.

1.5.3 Mammography is a breast-imaging technique that can detect non-palpable lesion and assist in diagnosing palpable masses (Smeltzer, et al, 2000). Mammography is one of the effective ways of detecting breast cancer. It is recommended that women who are 50 years should have mammography done annually. Although this is an effective way of detecting breast cancer, access to this technology is often limited for women due to barriers such as availability and cost (Berkow, 1997).

In Zambia, mammography is only available in one private clinic in Lusaka at the cost of K200, 000 (US $40) and therefore inaccessible to most women. Therefore BSE remains the only method that could be utilised for it is cheap and can easily be taught to all women.

Zapka, et al (1992) conducted a study entitled " Changes in Mammography Use: Economic, Need and Service Factors". The results revealed that women with

fewer resources often do not have the means to undergo mammography. Unemployed women were somewhat more likely to have never had a mammography, whereas employed women were slightly more likely to be previous users. Women in lower income groups reported having had no mammography. Education and income were significantly related to utilisation.

In Zambia, non availability of mammography and Clinical Breast Examination services in health institution have resulted into failure by most women to access these cancer detection methods. In addition, most women are less educated and have high poverty levels and limited employment opportunities has also contributed to failure by most women to access these services.

1.6 MEASURES PUT IN PLACE

The Zambian Government in conjunction with Cooperating Partners have intensified sensitisation programs through print and electronic media to educate women and girls about breast cancer and BSE. For example, "Your Health Matters Programs" by CBoH and MoH carryout breast cancer messages on both national radio and television.

The Government has recognised the month of October as the breast cancer awareness month. During this period, several activities are carried out, for example, fund raising walks are carried out in conjunction with Cooperating Partners and NGO's to raise funds to support breast cancer programs. Educational programs are also carried out to educate women on breast cancer. The MoH has continued promoting the practice of BSE for women. Nurses are also encouraged to teach BSE to women who attend family planning or antenatal clinics.

Breast Cancer Trust is a non-governmental organisation was which was formed in 1992 to assist breast cancer patients and to educate women about breast cancer. The Trust raises money to pay for cancer treatment for patients. It also

supports the breast cancer ward at the University Teaching Hospital. Breast cancer Trust is also involved in sensitisation programs on breast cancer. Since Clinical Breast Examination (CBE) and mammography are inaccessible to most women, therefore, BSE is the best alternative for women in Zambia. It is cheap and may offer an opportunity to find a breast tumour while it is still small and in a curable stage.

It has initiated programs on radio to educate women and girls on breast cancer and the importance of conducting BSE. All these efforts are aimed at educating women how to perform BSE in order to detect breast cancer early. If detected early and treated when immuno-competence is intact, the cure rate may be high and the quality of life may be better thereafter. Women working with the Trust include survivors of breast and cervical cancers.

The government has also got a cancer registry at University Teaching Hospital. This national cancer registry provides an important function in the MoH as far cancer cases are concerned. The office collects data, in some cases receives data, then compile, aggregate, analyses and then produces data into useful information for planners, researchers and health institutions.

The government has also opened a 24-bedded Cancer ward at the University Teaching Hospital for all clients with breast cancer. This was done in order to increase access to treatment to all women. The government has also embarked on the construction of the National Cancer Centre in order to increase accessibility and treatment option for cancer to all Zambians. Upon completion, the centre will dramatically reduce the cost of sending patients for radiotherapy to other countries.

Currently the government through the Ministry of Health is sending cancer patient to Zimbabwe and South Africa for radiotherapy. Before referral, an ADHOC committee on Treatment Abroad at University Teaching Hospital sits to decide who should be referred for treatment or not. The doctors would assess

the patient to ascertain the suitability of being sent for further treatment. Certain issues would be taken into account, such as:

1. The general condition of the patient. That is if immuno-competent or immuno-compromised.

2. The type of cancer the patient has

3. The stage of cancer

4. Benefits that the patient would have from radiotherapy

The doctors dealing with the client upon recommendation would then present these cases to the ADHOC committee for approval. A list would then be drawn for all those who have been approved by the committee and is sent to the Ministry of Health for sponsorship. Referrals at the Ministry have always been delayed due to financial constraints.

1.7 STATEMENT OF THE PROBLEM

Despite the measures put in place to try and combat the disease, case detection and prevalence of breast cancer has continued to increase. At the University Teaching Hospital (UTH), the incidence increased from 35 in 2001 to 59 in 2002 and to 93 in 2003. The UTH data also shows that previously, breast cancer was common in women aged 50 years and above, but now breast cancer is being recorded in women less than thirty years old. In 2002 alone, 3 women less than 14 years were diagnosed with breast cancer, and the incidence of those 15 to 34 years old has risen from 13 in 2001 to 19 in 2003 (Table 1).

Table 1. Breast Cancer Cases According to Age Group.

Age Group	1999	2000	2001	2002	2003	Total
0-14	0	0	0	3	0	3
15-24	20	3	5	5	7	40
25-34	8	10	5	5	12	40
35-44	12	9	6	16	21	62
45-54	1	3	9	10	21	44
55-64	4	7	5	5	13	34
65+	2	0	4	9	12	27
Unknown	2	1	1	8	7	19
Total	**49**	**34**	**35**	**59**	**93**	**270**

It should be noted that the above cases are just a minimal representation of breast cancer cases. There is still a problem of poor record keeping in the country. In addition some cases are not reported to the cancer registry for various reasons (UTH Cancer Registry, 2003).

In Zambia, although poverty affects women and men, women are more affected than men. Illiteracy levels are higher among women than in men. Less educated persons tend to have higher levels of poverty compared to their educated counterparts. Their engagement in economic activities is often not empowering. Majority of the women do not have steady income due to low literacy levels. Most women are less educated and as a result tend to have high levels of poverty compared to their educated counterparts. Employment opportunities are limited for women given their educational background (National Gender Policy, 2000).

In view of the above reasons, even if the services were available locally, most women would be unable to access mammography and to meet the high cost of cancer treatment due to financial constraints. Long-term treatment for cancer

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patients, long hospital stay amidst lack of medical and surgical supplies and staff has also contributed to the late presentation of cases. On the other hand, the poor socio-economic status of many families has resulted into failure by most families to pay for the treatment costs for patients. This has contributed to the late presentation of cases at the hospital. About 80% of women report to the hospital in stages three and four.

This means that apart from chemotherapy and surgery, the patient will also require radiotherapy, which is not currently available in Zambia. This has made it difficult for clinicians to treat cancer. Currently the MoH/CBOH are referring patients to Zimbabwe and South Africa for radiotherapy. This has proved to be very expensive for the MoH and the country as a whole. Most of the time, referrals are delayed due to financial constraints. In addition, poor selection criteria as to who should be sponsored for treatment has also contributed into failure by most women to access radiotherapy.

Stigma has also contributed to failure by women to report to the hospital early. Most women associate breast cancer with witchcraft. Therefore, this has also made it difficult for affected women to reveal their status early for fear of stigmatisation.

The researcher would like to find out to what extent women in urban and rural area practice BSE. Since other investigation tools are limited in Zambia, BSE is the only option available for our country. In addition, mammography and ultrasound are not suitable for this age group. Therefore BSE remains an important screening tool for a low resource country like Zambia.

1.8 JUSTIFICATION

The aim of the study is to determine and compare urban and rural women's knowledge on breast cancer and BSE. The findings would assist the government to device health education materials /manuals that would improve the teaching strategies for BSE. These manuals would further assist the Health Providers to give expert instructions to women on BSE technique. Ultimately, this will also assist to come up with a teaching program and support groups that would increase the skill, proficiency and frequency of BSE among women. The results will further provide a valid base for planning community interventions aimed at increasing women's knowledge and skills in BSE, so that BSE could be used as a screening tool for breast cancer. In Zambia, BSE studies have not yet been done.

1.9 OBJECTIVES

1.9.1 GENERAL OBJECTIVES

The aim of the study was to compare knowledge of breast cancer, knowledge of BSE and BSE practices among urban and rural women in child bearing age and to detect variations or association between the study variables.

1.9.2. SPECIFIC OBJECTIVES

1. To compare knowledge of breast cancer between rural and urban women in childbearing age.
2. To establish knowledge of BSE between rural and urban women in childbearing age.
3. To compare breast-self examination practices between rural and urban women in childbearing age.
4. To establish association or relationship between the study variables.
5. To make recommendations to the government and to all stake holders.

1.10 VARIABLES UNDER STUDY

Breast cancer knowledge- The respondent would be termed knowledgeable if she was able to define breast cancer, state the risk factors for breast cancer, outline the signs and symptoms and mention the treatment and prevention of breast cancer

Knowledge about BSE-The respondent would be termed knowledgeable if she was able to define BSE, state when it should be conducted, state how often BSE should be done and list signs to look for during BSE.

Practice of BSE- The respondents who are performing BSE monthly were termed to be practicing BSE.

Table 2: Variable, Indicators and Cut-Off Point

Variable	Indicator	Cut off point
Knowledge of breast cancer	Knowledgeable	One is able to define breast cancer, list signs, treatment and prevention.
	No knowledge	One is unable to define breast cancer, list signs, treatment and prevention.
Knowledge of BSE	Knowledgeable	One is able to define BSE, when it is done and how often and list signs to look for.
	No knowledge	One is unable to define BSE, when it is done and how often and doesn't know signs to look for.
BSE practice	Practising	One is performing BSE every month.
	Not practising	One is not practising BSE monthly.

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FIGURE 1: PROBLEM ANALYSIS DIAGRAM

SERVICE FACTORS

SOCIAL-CULTURAL FACTORS
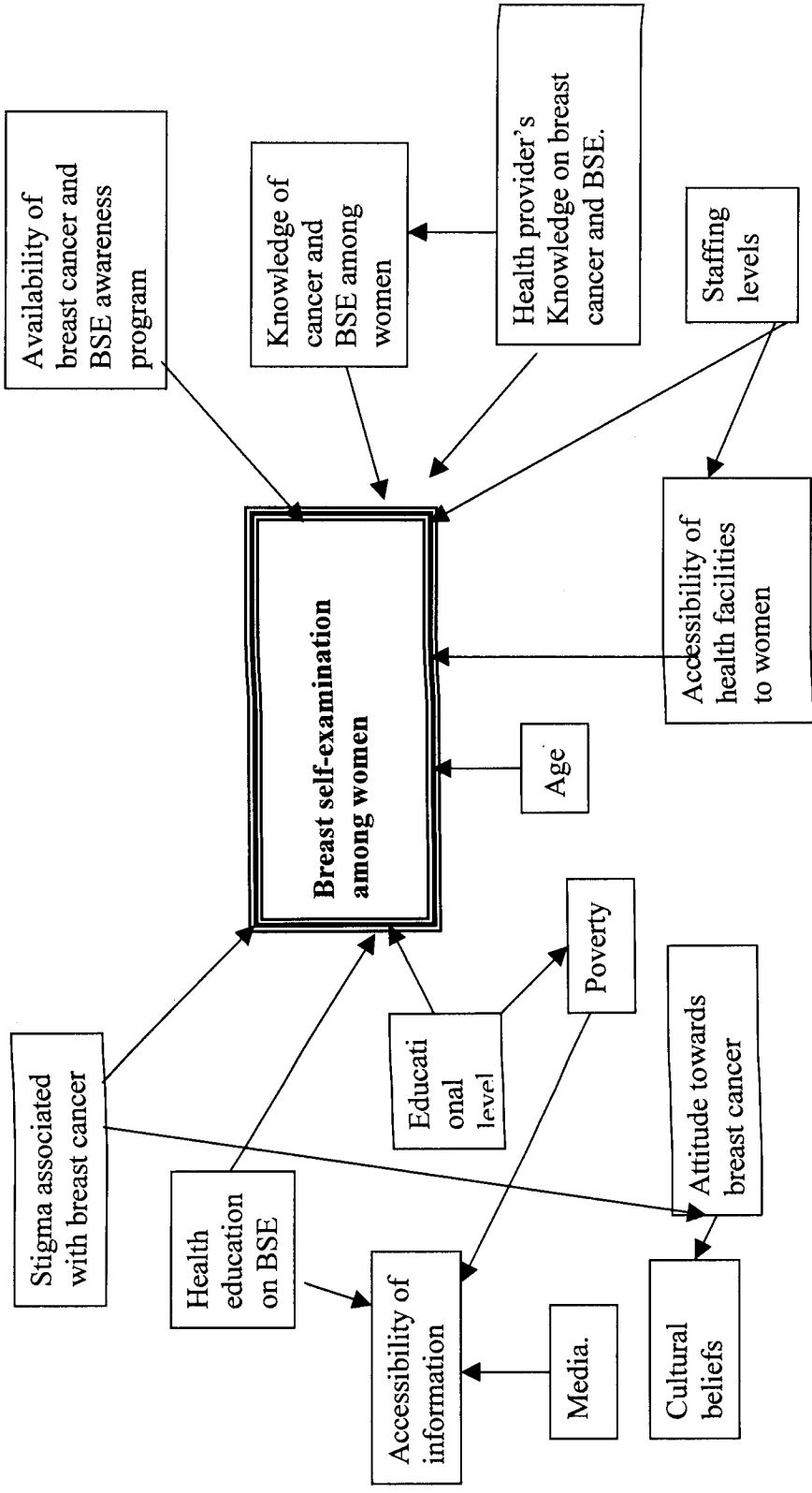
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Breast disorders represent a significant health concern to women. In a woman's lifetime, there is a one in nine chance that she will be diagnosed with a malignant breast disorder before menopause and a one in eight chance after menopause. Whether benign or malignant, intense feelings of shock, fear and denial often accompany the initial discovery of a lump or discharge in the breast. Through out history, the breast has been regarded as a symbol of beauty, sexuality and motherhood. The potential loss of a breast, or part of it, may be devastating for many women because of the significant psychological, social, sexual and body-image implications associated with it.

2.2 BREAST CANCER INCIDENCE

Breast cancer is currently a major public health in countries south of Sahara. It's the second most common malignancy in women. An African woman with breast cancer presents with distinct peculiarities when compared to the patient in the western countries. The malignancy in an African woman occurs despite having breast fed for a long duration and is associated with early pregnancy, multiparty and low fat rural diet. Breast cancer in this geographical region is also predominantly seen among pre-menopausal women.

Breast cancer incidence has been on the increase both in developed and developing countries. In 1999, a total of 175,000 women were reported to have developed breast cancer and approximately 45,000 women died of the disease. Breast cancer is the number two cancer killer of women in the United States. It accounts for 18% of all cancer deaths in women. Unfortunately, breast cancer deaths have remained virtually unchanged for more than 40 years, while the incidence has continued to rise. The prevalence and incidence of breast cancer is approximately the same in the blacks and in whites. However over the past 30 years, the overall cancer incidence rate increased to 27% in blacks and 10% in whites (Price, 1992).

In South Africa cancer is an emerging health problem, with breast cancer being one of the leading cancers in women, following similar worldwide statistics. In Malaysia, breast cancer is the leading cause of cancer among women, accounting for 11% of all medically certified deaths in the country. It is estimated that 1200 new cases occur every year and an increasing trend in cases among younger women has been observed (Amir, et al, 1998; Dorsay, et al, 1988). Risk factors for breast cancer are related to the reproductive life of women: early menarche, nulliparity or late age at first birth, late menopause, diet and physical exercise as well as hormonal factors be they endogenous or exogenous. In addition lifestyle factors have also been suggested to increase the risk of developing breast cancer.

As to exposure to risk factors, African women in general are characterized by certain protective factors. These factors are late menarche, early age at birth of first child, high parity with usually prolonged lactation and being physically of active. However, with ongoing changes in the lifestyles of urban African women, the protective factors are decreasing their intensity. Changes in these respects have been associated with rise in the disease's incidence rate.

Studies have shown that alcohol intake has been associated with breast cancer. The risk increases slightly in women who consume even one drink daily. The risk doubles among women drinking three drinks daily. Other studies have also suggested that smocking increases the risk of breast cancer and that the earlier the woman begins to smoke, the higher the risk (Price, et al 1992; Smeltzer, 2000).

2.3 KNOWLEDGE OF BREAST CANCER

Health providers recommend that women should have their first gynaecological examination at the age of twenty years. They should also start practicing BSE every month and have a clinical breast examination every three years. When they reach 40 years or over, they should have Clinical Breast Examination every year, BSE every month and mammography every year. Women are expected to have knowledge in these diagnostic tools for breast cancer. This would assist the women to detect breast cancer early before the tumour reaches advanced stages. Women are also expected to have knowledge on breast cancer in terms of its signs and symptoms, risk factors, treatment and prevention. They should also have knowledge on BSE and when this should be done. However, several studies have revealed that women have no knowledge about breast cancer hence their failure to practice BSE. A study by Nzarubara, (1999) revealed that the overall knowledge on risk factors was low.

Another study on women's perception of breast cancer and mammography revealed that the overall knowledge level of women regarding breast cancer was very low. Women perceived themselves as only moderately susceptible to breast cancer, which is unfortunate given that low social economic status, black female are a high risk group for this disease. Most women did not perceive breast cancer to be severe disease, and over half did not believe having breast cancer would kill them (Ortzturic, 1999). This confirms that most women have no knowledge of breast cancer and its severity.

2.4   KNOWLEDGE OF BREAST SELF-EXAMINATION
Even though potential for reducing cancer mortality through early detection and intervention has been demonstrated for a number of cancer sites, utilisation of many screening procedures remains low.

Numerous socio-demographic variables have been identified as determinants for low utilisation of screening techniques. For example, procedures available to detect cancer at early stages continue to be under-utilised by older adults, despite the fact that incidence increases with age, for most cancers. Research studies revealed that older women are less likely to have screening mammogram, breast physical examination and are less likely to perform BSE than are the younger women. Further more, less educated and lower income groups tend not to utilise cancer-screening procedures than their higher socio-economic counterparts. In addition to these demographic determinants, other reasons include: lack of physician recommendation, lack of knowledge, cost, lack of regular source of medical care and inconvenience and beliefs that the test is unnecessary. In general, however, the most important barrier to screening appears to be lack of awareness about the tests. The study further showed that women who relied on family and/ or friends for information about health were less likely to know about BSE, a potentially critical means of detecting cancer early (Meissner, et al, (1992).

Knowledge of cancer related prevention behaviour serves a protective role against distress, especially among individuals who perceive themselves at high risk of cancer. A study by Chee, et al (2003) revealed that the practice of BSE was found to be dependant on educational level. Women who were significantly more likely to do BSE every month were older and more educated. Educational level was found to be a factor associated with BSE. Those women with high educational level were likely to be more knowledgeable about BSE and practiced it regularly. Women who were less educated were found to be less likely to perform BSE for they had little or on knowledge about BSE. The study further revealed that most women, including those who practice BSE, do not know the correct time when to perform BSE.

Another study conducted by Nzarubara, (1999) also revealed that women were ignorant of risk factors to breast cancer and that knowledge on the art of BSE

was non-existent. This shows that most women have very little knowledge on BSE, hence their failure to practice it regularly. This implies that women have failed to see the importance of BSE as one of the most important breast cancer-detecting tool.

2.5 BREAST SELF EXAMINATION

Breast self-examination (BSE) has been advocated as a potentially very important factor in the early diagnosis of breast cancer. Breast Care Cancer states that women should start being breast aware by the age of 18 years and should continue their breast checks regularly throughout their lives (Epstein, 2001;America Cancer Society, 1999).

Estimates indicate that this type of examination discovers 65% of all breast nodules. Nevertheless, a Gallup Poll initiated in 1973 indicated that only 23% of women routinely examined their own breasts. Patient education is an important issue in increasing compliance. Examination of the breasts by either the patient, nurse practitioner, or physician is of obvious importance, because a painless nodule is by far the most common presentation of breast carcinoma. Pain is a symptom of breast cancer in only 15% to 24% of patients. Other presenting symptoms, such as breast enlargement, nipple discharge, retraction or contour changes, ulceration, erythema, axillary mass, and back and bone pain, are relatively infrequent presenting symptoms. Most attention therefore has appropriately been directed toward self-examination in an attempt to downstage tumours at their presentation (Powel, 1987;Persson, et al, 1997).

It is recommended that all women examine their breasts monthly starting at menarche. Because two thirds of women have fibrocystic breasts, the examination should be timed to occur at the same part of the menstrual cycle on subsequent examinations. This will minimise the confusion caused by normal cyclic changes in the breasts. It is normally recommend on day 4 or 5 of the menstrual cycle, because engorgement is minimised and the breasts are normally less tender at this time. BSE on a monthly basis is recommended so that patient detects changes at the earliest possible time. Women who practise monthly BSE

frequently detect very minimal changes. Examining the breasts more frequently than monthly is usually counterproductive, because monthly cyclic changes can be so confusing that the patient has no idea whether a significant change had actually occurred. Some studies indicate that the importance of BSE is minimised if the patient is not carefully instructed in proper technique.

Steinberger, et al (1994) and Budden, (1995) emphasised that by performing regular monthly BSE, women become acquainted with what is normal for them and any changes noticed serve as an effective warning. They assert that regular performance of BSE by young women as part of body awareness is a health management behaviour that may help save lives in future years, through early detection and intervention.

Bailey, (2000) suggests that women who examine their breasts regularly and develop breast cancer generally have a five-year survival rate of approximately 75%. Thus early diagnosis and intervention are the cornerstone of treatment for this disease, and are correlated with a better survival rate.

Patistea, et al (1992) suggests that encouraging this self-care practice is essential for increasing individuals's responsibility for their own health. BSE as part of being breast aware, is an action with a specific purpose that follows a set pattern and sequence. Persson, et al (1997) commented that, breast self examination does not rely on any specialised personnel or equipment, it is painless and inexpensive self-care action that can be done at home in about 10 minutes.

Further more, as previously shown by some studies, training increases breast self examination frequency, confidence and the number of small tumours found. A pooled analysis of studies showed that women who regularly performed BSE detected their cancers much earlier and with fewer positive nodes and smaller tumours than women failing to examine their breasts. There is a strong consensus that the effectiveness of BSE critically depends on careful training by skilled professionals, and that confidence in BSE is enhanced with annual CBEs by an experienced professional using structured individual training (Epstein, 2001; Leight, et al 1990).

Nearly all women (90-99%) are aware of BSE. Far few (15-40%) perform BSE on a regular basis. Older women perform BSE less frequently than do the younger women. This is of concern because older women are at a higher risk for developing breast cancers.

All health workers aware of these implications should encourage women to examine their own breasts and teach women to recognize early changes that may indicate problems. Therefore, health workers play an important role in preventive education.

A study conducted in Uganda on control of breast cancer using Health Education, revealed that health seeking behaviours of women greatly improved and more than 90% could describe BSE satisfactorily (Nzarubara, 1999). This shows that health Education on BSE if conducted through primary Health Care programs could improve the knowledge of breast cancer and sharpens skills on BSE among women. Although the reasons that women report for failing to practice regular BSE have changed somewhat over the years, 65% of women do not regularly examine their breast. But many women do not practice BSE as evidenced by advanced tumours when they report to the hospital. Some reasons cited by women for not practicing BSE are embarrassment, lack of confidence inability to do BSE, complexity of the procedure and not remembering to practice BSE (Budden, 1995).

All women should be encouraged to perform BSE. Women themselves than by a physician more frequently detect breast cancer during a routine physical examination. BSE is a useful adjuvant to early case detection. BSE will probably be the only feasible approach to wide population coverage for a long time to come. BSE if taught to women will improve their knowledge and BSE practice. In so doing, women will be able to seek medical intervention early before the

tumour is advanced. This will increase the effectiveness of BSE as an early detection tool.

CONCLUSION

Breast cancer is a major public health problem in both developing and developed countries. It is the leading cancer among women in the western word. It has become a prominent women's health problem representing 28% of all female concerns (Zapka, 1992). In Africa, the incidence is rising and cases are now being recorded in women less than thirty years. An African woman with breast cancer presents with distinct peculiarities when compared to the patient in the western countries. This malignancy in an African occurs despite having breast fed for a long duration and is associated with early pregnancy, multiparity and low fat rural diet. Breast cancer in this geographical region is being seen in premenopausal women (Amir, et al, 1998).

Despite the higher incidence of the disease, most women remain unaware of preventive health care measures such as BSE. This has been attributed to lack of health education programmes in many developing countries. BSE enables women to be familiar with their bodies, such that should there be any changes the woman would be able to notice such changes and be able to seek medical advice. Mammography, which is one of the effective ways of detecting breast cancer, is non-existent in many countries, Zambia included. Where this screening technology is present, it is not accessible to most women due to problem of cost. It is therefore important that knowledge of cancer related prevention is improved among women for this serves as protective role. Studies have found that health education to women can increase their knowledge on breast cancer and this can result in women improving their skills in BSE (Nzarubara, 1999).

CHAPTER 3: METHODOLOGY

3.1 STUDY DESIGN

This was an analytical comparative study, which aimed at comparing knowledge of breast cancer, knowledge of BSE and BSE practices among urban and rural women. The study sought to detect variations in knowledge and BSE practices between the two groups. The study also examined the differences between the different variables.

3.2 STUDY SITES

The study was conducted in two Districts, namely Solwezi and Lusaka.

3.2.1. Lusaka District

Lusaka the capital city of Zambia. It is situated in Lusaka province. It has a population of about 2,000,000 people. There are two government and several private hospitals. Between the two government hospitals, one is a military hospital. University Teaching Hospital, which is a government hospital, is the largest hospital in the country. It is both a tertially and a teaching hospital for all medical and paramedical students in the country. Lusaka district has seven constituencies (CSO, 2000-2003). The study was conducted in Lusaka Central Constituency in Kabulonga ward

3.2.2. Solwezi District

Solwezi is the provincial headquarters for North-Western province. It has a population of 235,635 people .The district has also 42 health centres and one major hospital. The hospital is a second Referral and a Teaching hospital for the province. The district has four constituencies. The study was conducted in Solwezi Central Constituency in Kapijimpanga ward (C.S.O, 2000).

3.3 STUDY POPULATION

Study population is an aggregate of all objects, subjects or members that conform to a set of specifications (Polit, et al, 1995). The target population were women in childbearing age regardless whether they had a child or not, in Solwezi and Lusaka Districts. There were two sample groups.

3.3.1. Sample 1. Lusaka District

The study units comprised of women in childbearing age, who resided in Kabulonga ward in Lusaka district. Kabulonga ward has 7,784 households and a total population of 38,512 people. Out of this population 4172 were women in childbearing age.

3.3.2 Sample 2. Solwezi District

This sample consisted of women in childbearing age that resided in Kapijimpanga ward in Solwezi district. Kapijimpanga ward has 2,939 households and a total population of 14,385 people out of which 1,577 were women in the childbearing age (CSO, 2000).

3.4 SAMPLING METHODS

Sampling is a process of selecting a portion of the population to represent the entire population. Sampling should be done in such a way that it is representative of that population for the researcher to draw conclusion that are valid for the whole population (Patton, 1990).

3.4.1 SOLWEZI DISTRICT

3.4.1.1 Ward

The researcher constructed a sampling frame of all wards in Solwezi central constituency. Then using simple random sampling Kapijimpanga ward was selected.

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3.4.1.2 Respondents

Kapijimpanga ward has 2939 households. Then using Systematic random sampling, households were selected. The first household was selected randomly.

3.4.2 LUSAKA DISTRICT

3.4.2.1 Ward

The researcher constructed a sampling frame of all wards in Lusaka central constituency. Then using simple random sampling, Kabulonga ward was selected.

3.4.2.2 Respondents

Kabulonga ward has 7,784 households. Then using systematic random sampling, households were selected. The first household was selected randomly.

The researcher interviewed all the women who met the criteria in the selected households. This method was chosen for it gave equal chance of all the women in these wards to participate in the study thereby eliminating biasness. The researcher gave a brief explanation of the purpose of the study and its benefits before the interview. The interview sessions took at least 40 minutes. These interviews were conducted in private away from other members of the family.

3.4.3 Inclusion Criteria

The sample units included all women in childbearing age, regardless whether they had a child or not, who resided in Kabulonga and Kapijimpanga wards. They were women who had not suffered from breast cancer before and were able to undergo a 40 minutes interview.

3.4.4 Exclusion criteria

The sample excluded women who were not in childbearing age and were not residing in Kabulonga and Kapijimpanga wards. Women who had had breast

cancer before were excluded from the sample. Women who were also not willing to participate in the study were not included in the sample.

3.4.5 Sampling Procedure

The researcher randomly selected the first household, and then using systematic sampling the other households were selected. Then the researcher interviewed all the women in childbearing age that met the inclusion criteria in that particular household.

3.5 SAMPLE SIZE

A sample is a subset of a population selected to participate in the research study. It is the decision of how many people who need to be studied in order to answer the study objectives. The following formula was utilised to calculate the sample size:

$$\frac{P\ (100\text{-}P)\ *\ f\ (1\text{-}a)}{\Delta^2}$$

Where P: An estimate of the sample percentage, which is 20%

f (1-a): is the confidence interval at 95%, which is 3.842

Δ is the desired width of 5%. The required sample size is:

$$n = \frac{20\ *\ 80\ *\ 3.842}{5^2}$$

n=246.

3.6 DATA COLLECTION TOOLS

Data was collected using an interview schedule. The interview schedule was appropriate for it allowed the researcher to elicit information on knowledge on breast cancer and BSE. This instrument allowed women who were not able to read and write to participate in the study thereby reducing biasness. The instrument was translated into Nyanja for Lusaka district and Kaonde for

Solwezi district during the interview sessions. The interview schedule was presented into five sections. Section A sourced for information on socio-demographic characteristics of the respondents; Section B elicited information on knowledge about breast cancer; Section C contained questions on knowledge about BSE, and these questions enabled the researcher to collect information on knowledge about BSE. Section D sourced information on BSE practices among women.

3.6.1 Validity

It is the extent to which the instrument measures what it is supposed to be measuring. In other words, validity is the relevance of the instrument to its objectives (Quinn, 1997). This is the most important for the instrument to be able to collect the information required. In order to determine content validity, the experts critiqued the tool and gave expert advice and input in the way the questions were supposed to be formatted.

3.6.2 Reliability

It is the term used to indicate the consistency with which the instrument measures what it is designed to measure. In other words, it should yield similar results when used on two separate accessions, provided that the other variables remain similar (Quinn, 1997). As part of the instrument was investigator developed, a pilot study was conducted.

3.6.3 Pilot Study

A pilot study is a small preliminary investigation of the same general character as the major study. A pilot study was conducted in Tunvananai ward in Solwezi district, and Independence ward in Lusaka district. These wards were not included in the study. Ten percent of the sample was interviewed in each ward. This was important for it assisted the researcher to evaluate and refine the methodology. Pretesting of the instrument helped the researcher to determine the length of time it would take to administer the entire instrument. It also assisted

the researcher to identify any parts of the instrument that would need clarification. This was important for it helped the investigator to test the interview schedule for completeness, clarity and accuracy.

3.7 DATA COLLECTION TECHNIQUES

Data was collected using the interview schedule. Informed consent was collected from the respondents after explaining the purpose of the study. To ensure privacy, the interview sessions were done in privacy away from other members of the household. This assisted the researcher to observe how the respondents conducted BSE.

3.8 ETHICAL CONSIDERATION

Ethical approval was obtained as required by the Graduate Studies Committee of the University of Zambia: School of Medicine. An informed consent was collected from the respondents after explanation of the purpose of the study. Thereafter permission was also sought from the District Directors of Health of the respective Districts. Confidentiality and anonymity was also be ensured. The respondents' names and addresses were not included on the interview schedule. In addition, all the data was reported collectively as a group and not individually and all the information was kept confidential.

3.9 DATA MANAGEMENT

3.9.1 Data Analysis

Data analysis is the systemic organisation and synthesis of research data and the testing of research hypothesis using that data (Polit, et al, 1999). Data will only be useful when it is arranged in a meaningful order in order to derive the pattern of relationship. All data collected were edited for completeness and clarity. It was then categorised and coded. It was then analysed using **EPI Info**. The researcher used linear regression to detect the associations between study variables and used t- test to detect differences in knowledge and BSE practices between women in urban and urban.

3.10 ADMINISTRATION AND MONITORING

The Investigator with the help of the research team made use of the work plan and Gantt chart to monitor the project. The Principal Investigator conducted day-to-day supervision of the project. Assistance from the supervisors was sought during Pretest and Data analysis. Monitoring was done throughout the duration of the project.

3.11 LIMITATIONS

Eight (3.5%) of respondents refused to be interviewed although an explanation was given to them that there were no monetary gains involved. They still wanted to be paid for accepting to be interviewed. Secondly, the interview sessions used to take longer than stipulated for the interview sessions were interrupted for women had to attend to household chores. Thirdly, there was lack of adequate relevant literature on the subject, as this study had not been attempted before in Zambia. Most of the literature was from other countries. Finally there were also logistics and financial limitations.

CHAPTER 4: FINDINGS OF THE STUDY

4.1 PRESENTATION OF FINDINGS.

The aim of the study was to compare knowledge of breast cancer, knowledge of BSE and BSE practices among rural and urban women. This chapter presents the study results.

4.2 Socio- demographic Data

A total of 238 respondents took part in the study. Out of the 238 participants 51.3% were from the urban area (Lusaka) and 48.7% resided in rural area (Solwezi). The median age for urban area was 26.5 (Q1=21, Q3=33) whereas the median age for rural area was 29.0 (Q1=23, Q3=35). The results showed that 57.8% of the respondents in rural area were married, whereas 42.2% fell in the category of others who were divorced, separated or never married. The respondents' level of education showed that 36.2% of respondents in rural area had tertiary education, 30.2 had either primary or no education and 33.6% had secondary education. In urban area, 29.5% of respondents had tertiary education, 30.3% had secondary education and 40.2% had either primary or no education. No significant differences were observed in the distribution of age (p-value 0.187), marital status (p-value 0.929) and educational level (p-value 0.260). **Table 3** presents the socio-demographic characteristics of the respondents.

Table 3 Socio-demographic characteristics of the sample. (n=238)

	Rural Total=116		Urban Total=122		
	n	%	n	%	P-Value
AGE					
15-25	43	37	59	48.4	0.187
26-35	46	39.7	37	30.3	
36-45	22	19	23	18. 9	
46 and above	5	4.3	3	2.4	
MARITAL STATUS.					
Married	67	57.8	68	56.6	0.929
Never married	41	35.3	42	35	
Separated + widow,divorced	8	6.9	10	8.1	
EDUCATIONAL LEVEL					
Tertiary	43	36.2	36	29.5	0.260
Secondary	39	33.6	37	30.3	
Primary + none	35	30.2	49	40.2	

Figure 2. Breast Cancer Knowledge Among Women in Lusaka District

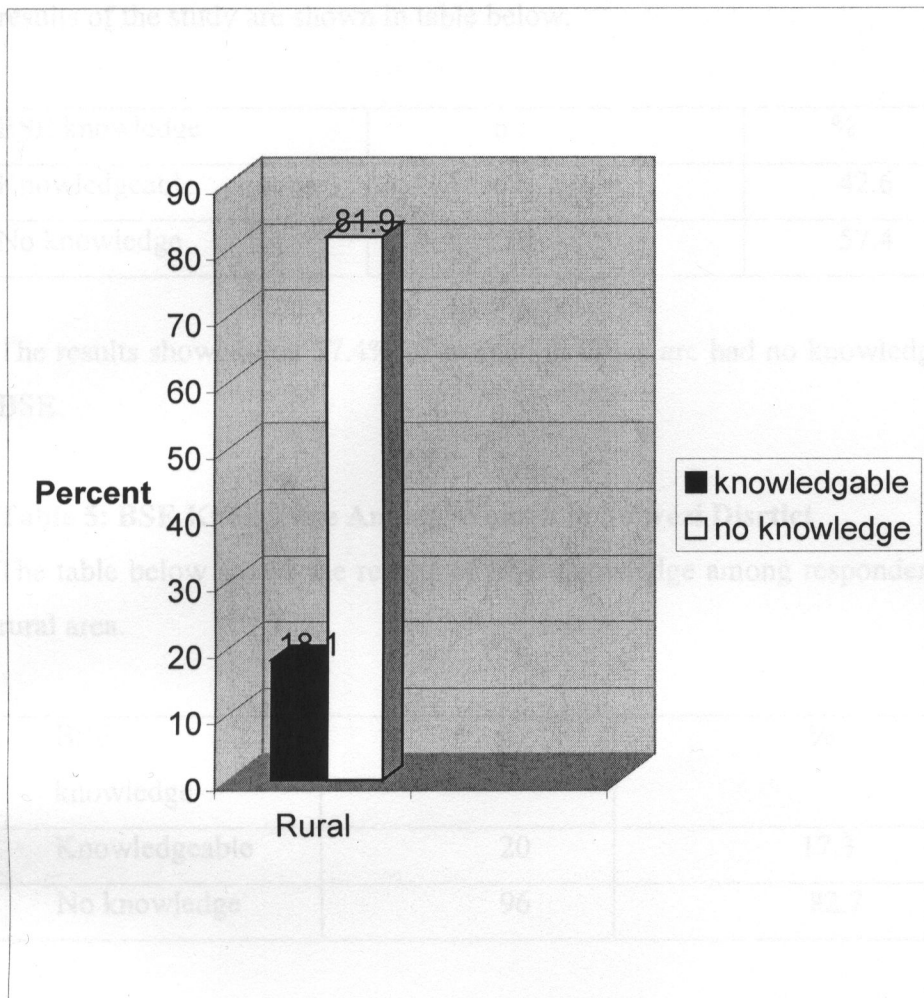The figure below shows the respondents' knowledge on breast cancer
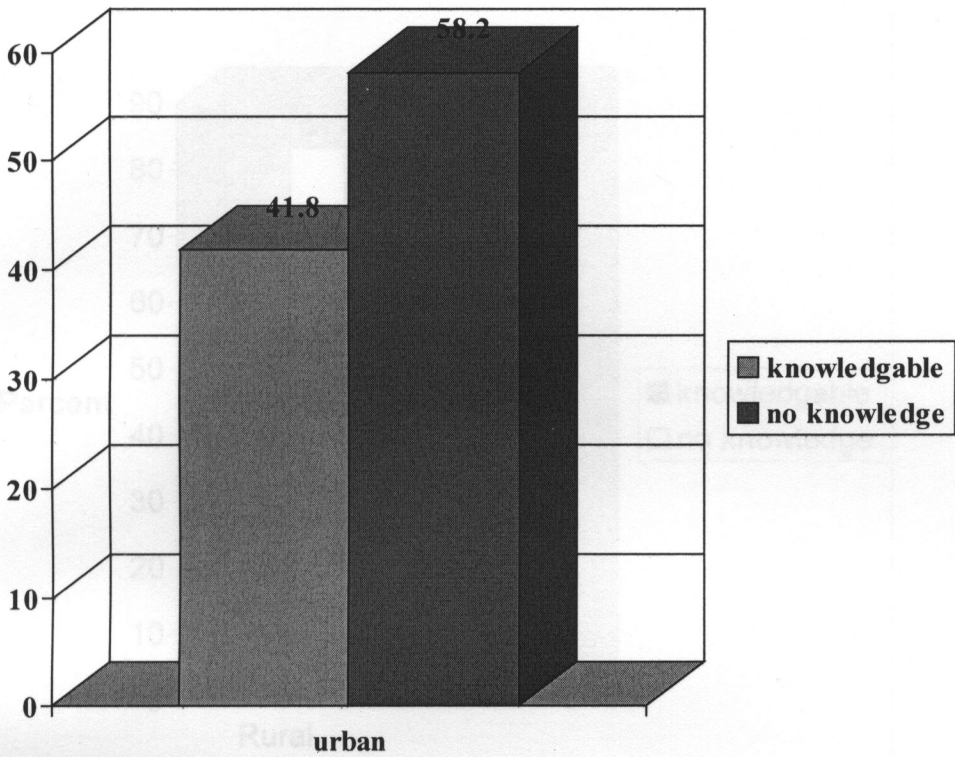
The results showed that 58.2% of respondents had no knowledge about breast cancer.

Figure 3: Breast Cancer Knowledge Among Rural Women

The figure below shows breast cancer knowledge among respondents from rural area.

The results showed that 81.9% of women had no knowledge on breast cancer.

Table 4. BSE Knowledge Among Women in Lusaka District

The results of the study are shown in table below.

BSE knowledge	n	%
Knowledgeable	52	42.6
No knowledge	70	57.4

The results showed that 57.4% of women in urban are had no knowledge about BSE.

Table 5: BSE Knowledge Among Women in Solwezi Disrtict

The table below shows the results of BSE knowledge among respondents from rural area.

BSE knowledge	n	%
Knowledgeable	20	17.3
No knowledge	96	82.7

The results showed that 82.7% of the women in rural area had no knowledge on BSE.

4.3. Comparison of breast cancer knowledge among women in Lusaka and Solwezi districts

A comparison of breast cancer knowledge between the two areas was done. This was done in order to detect who had higher knowledge on breast cancer between the two groups. The results of the analysis are shown in Figure 4 below.

Figure 4:Breast Cancer Knowledge Among Women in Lusaka and Solwezi Districts
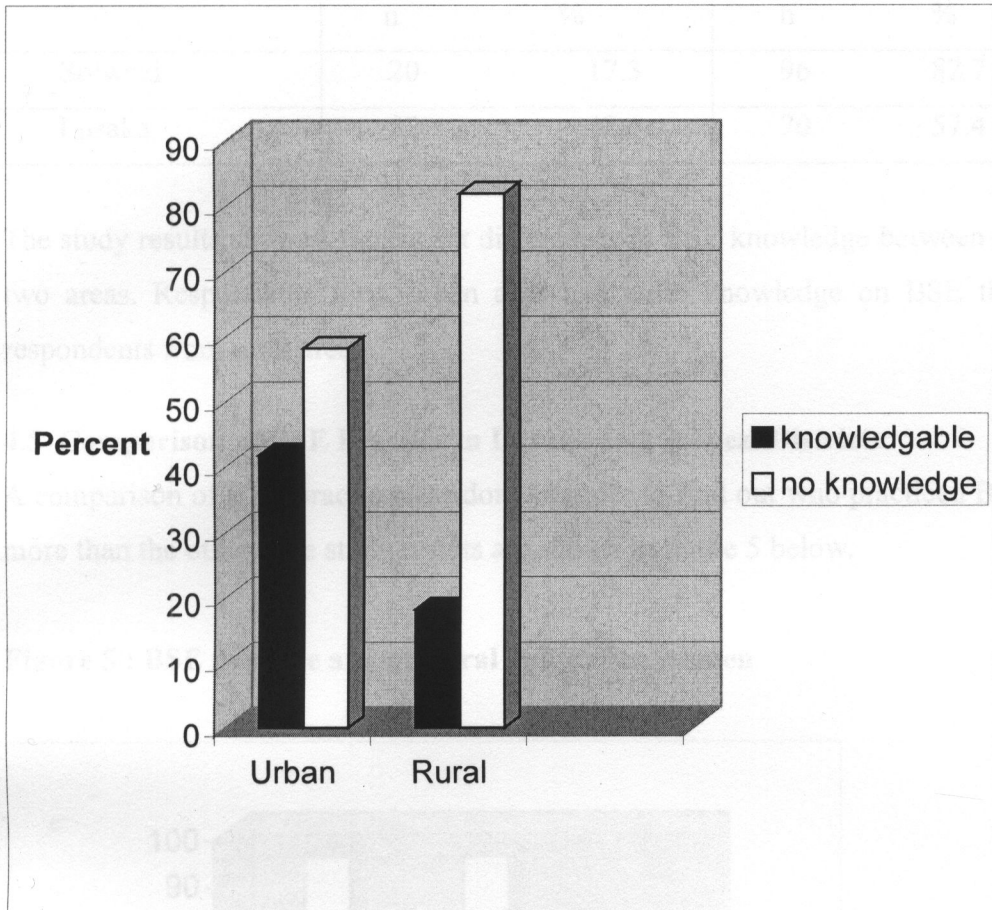
The study results showed significant differences in breast cancer knowledge between the two areas (p-value 0.000). Respondents from urban areas were more knowledgeable than respondents from the rural area.

4.4. Comparison of BSE Knowledge Among Women in Lusaka and Solwezi Districts

A comparison of BSE knowledge between the two areas was done. This was done in order to detect who had higher knowledge on BSE between the two groups. The results of the analysis are shown in Table 6.

Table 6:Comparison of BSE Knowledge Between Lusaka and Solwezi Districts

Area	Knowledgeable		No knowledge	
	n	%	n	%
Solwezi	20	17.3	96	82.7
Lusaka	52	42.6	70	57.4

The study results showed significant differences in BSE knowledge between the two areas. Respondents form urban area had more knowledge on BSE than respondents from rural area

4.5 Comparison of BSE Practice in Lusaka and Solwezi Districts

A comparison of BSE practice was done in order to find out who practiced BSE more than the other. The study results are shown in figure 5 below.

Figure 5 : BSE practice among rural and urban women
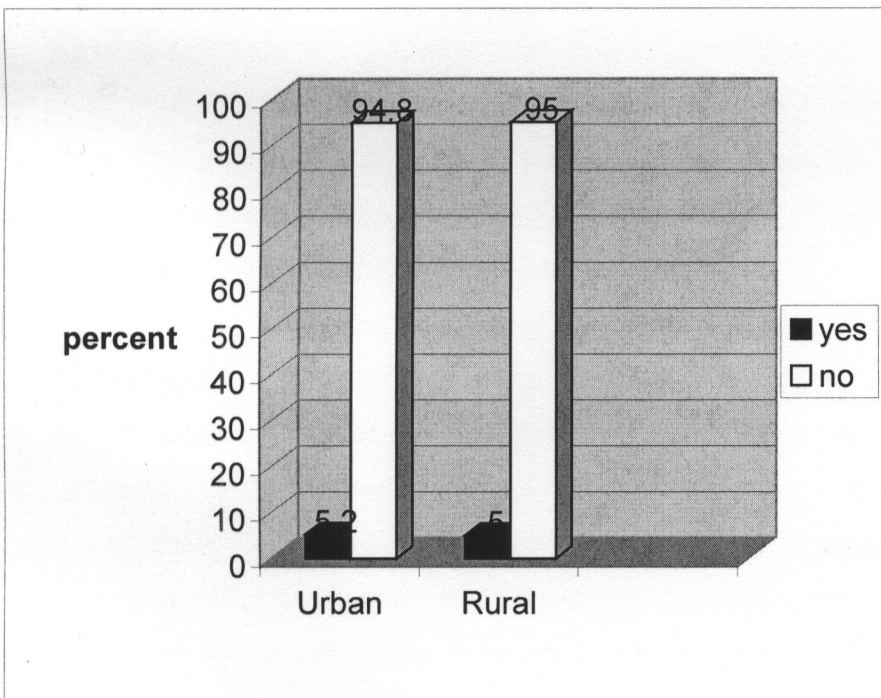
The results revealed that 65.5% of women in rural and 59% of women in urban area did not practice BSE. BSE practice was low in both areas.

4.6 RELATIONSHIP BETWEEN STUDY VARIABLES

To establish whether there was an association between variables, regression analysis was as done. The results are shown below:

Breast cancer knowledge and BSE practice

The results showed that there was no association between breast cancer knowledge and BSE practice ($r=0.81, r^2=0.64$). Respondents who had knowledge on breast cancer were not practicing BSE.

BSE knowledge and practice

The results showed that there was no association between BSE knowledge and BSE practice. Although some respondents had knowledge on BSE, they were not practicing BSE ($r=0.98, r^2 0.97$).

CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 INTRODUCTION

The purpose of the study was to compare knowledge of breast cancer, knowledge of BSE and BSE practices among urban and rural women in child bearing age and to establish whether there was an association between the study variables.

5.2 SUMMARY OF FINDINGS

A total of 238 respondents took part in the study. Out of the 238 respondents, 51.3% were from the urban area and 48.7% resided in rural area. The median age for the urban women was 26.5 (Q1= 21, Q3=33) and the median age for the rural women was 29.0 (Q=23,Q3=35) The results showed 57.8% of women in rural area were married where as 42.2% were either divorced, widows, separated or never married. About 56.6% of the respondents from urban area were married while 43.4 % were either divorced, never married separated or widowed. About 36.2% of the respondents had tertiary education (College or University), 30.2% had either primary or no education and 33.6% had secondary education. In urban area, 29.5% of the respondents had tertiary education, 30.3% had secondary education and 40.2% had either primary or no education. No significant differences were observed in age distribution (p-value 0.187), marital status (p-value 0.929), and educational level (p-value 0.260).

The results showed that the majority of respondents in rural area (81.9%) had no knowledge on breast cancer whereas in urban area 58.2% of respondents had no knowledge on breast cancer. Significant differences were observed in breast cancer knowledge between the two groups. High knowledge on breast cancer was observed in respondents from urban than from rural area. Education level was found to be associated with knowledge on breast cancer (P <0.001). Generally knowledge on BSE was very low among women. Only 17.3% of rural women and 42.6% of respondents in urban area had knowledge on BSE.

The study results revealed that BSE practice was low among respondents in both areas. Further analysis showed that there was no association between breast cancer knowledge and BSE practice, BSE knowledge and BSE practice.

5.3 DISCUSSION OF FINDINGS

5.3.1 Knowledge of Breast Cancer

Knowledge in this study was related to what women in childbearing age knew about breast cancer, in terms of its definition, predisposing factors and causes, signs and symptoms, treatment and prevention of breast cancer. The study showed that knowledge of breast cancer was low among respondents in both areas. These results offer an insight into the prevailing breast cancer knowledge among women.

Women generally are expected to have knowledge on breast cancer in terms of its signs and symptoms, risk factors and treatment. They should also be knowledgeable on BSE and when it should be done. However several studies have revealed that women have no knowledge in breast cancer hence their failure to practice BSE. These findings agree with the study conducted by Price, (1992) which revealed that breast cancer knowledge was very low among women. Other studies conducted also showed that the level of breast cancer knowledge was low among women (Macdonald, 1999; Sadler, 2001; Nzarubara, 1999). This implies that educational programs on breast cancer need to be intensified both in the rural and urban areas. The Educational program should convey information that is simple, and should be tailored to the audience who cannot access information through the media. Access to good quality and reliable information is cardinal in improving women's knowledge on breast cancer.

The results however, showed significant differences in breast cancer knowledge between rural and urban area (p <0.001). Knowledge on breast cancer was

higher in respondents in urban than rural area. The differences in knowledge could be attributed to increased access to mass media in urban than in rural area. The results is in line with the ZDHS (2000-2002) that revealed that 65% of women in rural area have no access to all forms of media as compared to only 24.8% of women in urban area. Therefore rural women are unable to access breast cancer information through the media. The Government and Breast Cancer Trust have been using the media through programs like e.g. 'Your Health Matters' to transmit breast cancer information and educating the women on the importance of conducting BSE. These programs are usually in English language, and not all women in the country are literate. With the low educational levels prevalence among rural women, this makes it difficult for women to access this information. This indicates that mass media alone is inadequate in disseminating information about breast cancer. There is need to use other means such as drama groups, peer educators, pamphlets, posters in order to increase their access to information.

The study results further revealed that breast cancer knowledge increased with education. Women with high education level had high knowledge on breast cancer. It is important to note that education has a major impact on access to information. Educated individuals are able to acquire radios and television sets, which can help increase knowledge. It is often assumed that knowledge determines attitude and attitude determines behaviors (Park, 2000). In this case, if women had high levels of education, they could have had knowledge on breast cancer. It is therefore important, to continue sending messages about the importance of breast cancer education so that women who may be compliant to learning at first can be convinced of it's value.

5.3.2 BSE Knowledge
The results showed that BSE knowledge was very poor among women. The majority of the respondents had low knowledge on BSE in both groups. These results compare with the study conducted by Meissner, et al (1992) who found

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that most women including those who practice BSE do not know the correct time when to perform BSE. Another study by Nzarubara, (1999) also showed that women were ignorant of risk factors to breast cancer and that knowledge on the art of BSE was non-existent. This showed that women had very little knowledge on BSE, hence their failure to practice it regularly.

In Zambia, educational programs on BSE are not consistent. Therefore, there is need to increase educational programs on BSE so that BSE knowledge among women in both areas is increased. There is also need to review the mode of education being used when teaching women about BSE during antenatal and family planning clinics. In view of these results, it indicates that the mode of teaching being utilized is not effective.

It is therefore important to provide training and educational programs for women in BSE in order to increase their knowledge. Interventions with education are effective not only in the improvement of women's knowledge on BSE and frequency and but also BSE efficiency.

5.3.3 BSE Practice

The study results showed that BSE practice was low in both areas. These results agree with a study conducted by Janda, et al (2000) showed that although 92% of women knew BSE, only 31% of women practiced it thoroughly. Rashidi, et al (2000) also found that 74% of women had not practiced BSE although 85% of women had heard about it. Other studies also revealed that BSE is practiced only in 10.4% of cases and only 2.65% practiced it monthly (Abdel-Fattah et al 2000). Sternberger, (1994) also found that the overall percentage of women who practice BSE is between 29 and 44%. The study also found that women had poor knowledge about screening guidelines. This shows that very few women practiced it.

The major reasons cited by women in this study was that, they did not know how to do it and they did not think that cancer was a serious disease. Budden, (1995) also found that the reasons that women report for failing to practice regular BSE are; embarrassment, lack of confidence, inability to do BSE and complexity of the procedure. Lack of educational programs on breast cancer and BSE have contributed to failure by women to practice BSE.

In a study by Agars, et al (1993) concerning personal BSE practice, it was found that instruction (booklet, film, group discussion etc) produced a significant improvement in BSE technique and practice. These findings indicate that educational programs would assist in promoting awareness and BSE practice. Therefore, verbal or written explanation of what changes to look out for should be given, and perhaps equally important, support should be given to encourage reporting any changes. In addition, collaboration with voluntary civil association and Ministry of Education can assist in improving BSE practice. Since peers heavily influence young adults, a BSE program that incorporates peer education may be an effective means to establish BSE.

It is therefore clear that education on breast cancer and BSE is necessary. It can help increase knowledge and can reinforce desired behavior pattern. In addition to education, the target population must have access to proven preventive measures and procedures.

5.3.4 RELATIONSHIP BETWEEN VARIABLES

Breast Cancer and BSE practice
The results showed no association between breast cancer knowledge and BSE practice. These results agree with the study conducted by Persson, et al (1995), which showed that only 10% of the sample practiced BSE, and neither educational background nor having knowledge on breast cancer was associated with BSE practice. The lack of breast cancer knowledge observed in study

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participants may have contributed to low adherence to BSE practice among women. Previous studies have shown that knowledge of breast cancer and screening guidelines is related to screening rates (Ko, et al 2003). This means that if women had knowledge about breast cancer they would have knowledge on BSE, which is one of the screening methods for breast cancer. Since the majority of women in the study had no knowledge on breast cancer, they were equally not aware that breast cancer is a severe disease hence their failure to practice BSE.This shows that there is need for a more focused breast cancer educational programs.

Knowledge on BSE and BSE practice.

The study showed that there was no association between BSE knowledge and BSE practice. These results agree with the study conducted by Janda, M., et al (2000), which showed that although 92% of women knew BSE, only 31% practiced it thoroughly. The study revealed that knowledge and performance of BSE was not satisfactory among respondents. The study further reveals that if one lacks knowledge about self-care, they would also lack self-care practices. In this case, lack of knowledge about BSE would result into failure by women to practice it. These gaps in knowledge and practice reflect the methods employed to disseminate information should be thoroughly reviewed. Health educational services should reach out to all women including those with low levels of education and those in rural areas equitably.

5.4 IMPLICATIONS TO MEDICAL SURGICAL NURSING

5.4.1 Practice

The study findings have shown that the majority of the women in the study have no knowledge about breast cancer and BSE. The results further show that BSE practice was very low among women. This implies that there is need to intensify health education messages on breast cancer and BSE, so that women could be empowered with knowledge on BSE. Health care providers must continue to

remind women and update them on breast cancer and BSE practices must be reinforced. All levels of providers should improve skills in BSE. Nurses must remain current in their knowledge of breast diseases, screening and treatment. Nurse practitioners should incorporate BSE teaching into their practices as well as into their outreach services. This will help in improving women's knowledge and foster their confidence and skills in BSE.

5.4.2 Administration

Administrators should ensure that the environment is conducive for nurses to teach BSE to women. They must also be knowledgeable on breast cancer and BSE technique. Materials needed for teaching should be made available to nurses. The administrators should also lobby and advocate for development of procedure manuals and breast models that nurses could use during teaching.

5.4.3 Policy Makers

The government's policy on promotion of BSE should be reviewed in the light of these findings. The government should come up with guidelines of how BSE should be taught and promoted, and how it should be ascertained through a thorough assessment of the current practice and its effect.

5.5 RECOMMENDATIONS

Based on the findings of the study, the following recommendations have been made: -

1. The MoH/CBoH should develop teaching manuals for use by health providers during BSE teaching so that there is consistence and uniformity in BSE information to the women.
2. The MoH/CBoH should ensure that nurses' knowledge and skill in BSE should be improved through re-training so that they could give expert instructions to women in relation to BSE technique.

3. Breast Awareness, which is advocated in place of routine breast examination, should be encouraged among women.

4. Health providers should continue to initiate discussions on BSE and the importance of periodic check up that include Clinical Breast Examination (CBE) for all women. Women should be taught to request for CBE even if their initial visit has nothing to do with clinical breast examination. Nurses teaching BSE must emphasize that early detection and treatment enhances survival.

5. School Health Programs should include health education on breast cancer and BSE so that these educational programs on BSE start as early as 12 years of age, so that the girl child could start BSE early and become familiar with her breasts.

6. Health providers should display BSE posters in all examination rooms in clinics and hospitals.

7. Men should be involved in BSE teaching for they can act as support group to women.

8. Breast Cancer Trust, MoH/ CBoH should reinforce educational programs on breast cancer and BSE on the media by including these educational programs in local languages.

5.6 Dissemination of Findings

The study findings will be disseminated to the policy makers, professional colleagues through meetings and conferences.

5.7 CONCLUSION

On the basis of the findings of the study it was concluded that generally women have very low knowledge on breast cancer and BSE, although there was a significant difference in knowledge of breast cancer and BSE among urban and rural respondents. Respondents in urban area potrayed to have had more knowledge on BSE and breast cancer than rural respondents. BSE practice was low in both rural and urban respondents.

Therefore there is need to increase health education programs in order to increase women's access to information about breast cancer and BSE.

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INTERVIEW SCHEDULE FOR WOMEN AGED 15 - 49 YEARS

Serial No:..........................

Date:...............................

Time:..............................

District.............................

Ward........................

INSTRUCTIONS FOR INTERVIEWER

1. Do not indicate the name of the respondent on the questionnaire

2. Information given should be strictly confidential

3. Tick the responses in the appropriate spaces provided for closed ended questions. Write on the spaces provided for open-ended questions.

4. Ask all questions

SECTION A

BACKGROUND INFORMATION USE

1. AGE (at last birthday)

....

2. What is your marital status?

(a) Single

(b) Married

(c) Divorced

(d) Widow

(e) Separated

(f) Others specify.....................

3. How many children do you have?

....

4. What is your educational attainment level?

    (a)   None

    (b)   Primary

    (c)   Secondary

    (d)   College

    (e)   University

5.   What is your occupation?

    (a)   School girl

    (b)   Self employed

    (c)   Employed

    (d)   Unemployed

6. What is your religious denomination?

  (a) Catholic

(b) United church of Zambia

(c) Seventh Day Adventist

(d) Pentecostal

(e) Others Specify.........................

7. Age at first Menarche

....

8. Age at first pregnancy

....

SOCIAL HABITS

9. Do you drink alcohol?

    (a)   Yes

    (b)   No

10. If yes, to question 9 above, how much?

    (a)   One drink

    (b)   Two drinks

    (c)   More than two drinks

11.   Do you smoke?

    (a)   Yes

    (b)   No

12. If yes, how many cigarettes per day?

....

ACCESS TO RADIO, TELEVISION AND PRINT MEDIA.

13. Do you have a radio?

    (a) Yes

    (b) No

14. If yes how often do you listen to the radio?

   ………………………………………………

15. Do you have a television set?

   (a)   Yes

   (b)   No

16. If yes, how often do you

   watch Television?

   (a)   Daily

   (b)   Occasionally

   (c)   Never

SECTION B.

KNOWLEDGE ON BREAST CANCER

17. Have you ever heard of breast cancer

   (a)   Yes

   (b)   No

   18. If yes, from where?

   (a)   Through radio

   (b)   Through television

   (c)   Through newspaper

   (d)   Friends

   (e)   Health worker

   (f)   Others specify………………………

   19. What is breast cancer?

   …………………………………………………

   20. What do you think is the cause of breast cancer?

   (a) Do not know

   (b) Witchcraft

   (c) Unknown

(d) Others specify…………………………..

21. What are the risks factors to breast cancer?
    (Tick all correct answers).

a) Alcohol consumption

b) Low parity

c) Late menarche

d) Early menarche before the age of 12 years

e) Having the first pregnancy after the age of 30

f) Consumption of high calories diet and high
   fat consumption.

g) Short lactation periods

h) Family and past history of breast disease

i) Others, specify…………………………….

22. What are the symptoms of breast cancer?
(Tick all correct answers.)

(a) Discharge from the nipple

(b) Lump in the breast

(c) Nipple retraction

(d) Swelling of breast

(e) Breast skin looks like an
    Orange peel

(f) Bleeding from the nipple

(g) Skin becomes thick, hard and
    Immobile

(h) Skin discolouration may occur

(i) Thickening, scaling and
    erosion of nipple and areola

(j) Changes in the contour of the
    Breast.

(k)   Others specify.............................

23. What is the treatment for breast cancer?

       (a) Lumpectomy

       (b) Removal of the breast

       (c) Oral drugs

       (d) Radiotherapy.

       (e) others, specify...............

24. How can breast cancer be prevented?

(Tick all correct responses).

(a) Women should stop or should not drink alcohol.

(b) Women should reduce on the amount of fat and

    calories in their diet.

(c) Women should breast feed for longer periods.

(d) Women should have regular physical exercises.

25.   Is there anyone in your family with

    breast cancer?

    (a) Yes

    (b) No

26.   Is there anyone in your family with any other cancer?

    (a) Yes.

    (b) No

SECTION C.
KNOWLEDGE OF BREAST SELF EXAMINATION (BSE)

27.   Have you ever heard of BSE

    Yes

    No

28. If yes, from where

    (a) Radio

    (b) Television

    (c) Newspaper

    (d) Friends

    (e) Health worker

    (f) Others, specify...............

29. What is breast self examination (BSE)?

    ....

30. What are the indications for BSE?

    (a) For early detection of breast cancer

    (b) I don't know.

    (c) Others, specify............

31. When should BSE be done?

    ....

32. How often should BSE be done?

    ....

33. What signs do you look for during BSE?

    ....

34. What are the reasons for practicing BSE?

    (a) To become more familiar with my breasts.

    (b) Most lumps are discovered by woman herself

    (c) The health provider advised me to be conducting BSE.

    (d) To enable me discover breast cancer early

(e) I am at risk.

(f) Contact with breast cancer patients

(g) One of my relatives had breast cancer

(h) Others specify……………………………..

SECTION D.

PRACTICE OF BREAST SELF EXAMINATION (BSE)

35. Do you practice BSE?

    (a)   Yes

    (b)   No

36. If yes, how often?

    (a)   Monthly

    (b)   Occasionally

    (c)   Never

36 .How many times have you practiced

BSE in the previous 12 months?

………………………………………….

37.Have you ever been trained

to conduct BSE?

Yes

No

38.   If yes, by whom?

    (a)   Through the media

    (b)   Peers

    (c)   Health worker

(d)   Others, specify...........

39.   Would you like to be taught?

     (a)   Yes

     (b)   No

40.   If you practice BSE, why do you do so?

     (a) It is embarrassing

     (b) I forget

     (c) I do not take time

     (d). I do not know how to do it

     (e) I am afraid I will find something

     (f). I do not think it has any value

     (g). Others, specify..............

41. If you do not practice BSE, why don't you do so?

     ....

42.   Do you have any suggestions of how we can improve
     BSE practices among women

     ....

**WE HAVE COME TO THE END OF THE INTERVIEW. THANK YOU
FOR YOUR PARTICIPATION.**

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

9ᵗʰ August, 2005

Ms. Florence Mukupo
Department of Post Basic Nursing
School of Medicine

Dear Ms. Mukupo,

Re: MASTER OF SCIENCE IN NURSING RESEARCH PROPOSAL

Your research proposal for the Master of Science in Nursing entitled: **"Breast Self Examination among Rural and Urban Women in Childbearing Age"** was presented at the Graduate Studies Committee of the School held on 9ᵗʰ June, 2005.

I am pleased to inform you that your proposal was approved by the Committee. You can proceed to Part II of the programme and your Supervisor is Ms. P. Mweemba and your Co-supervisor is Mr. K. Bowa.

I wish you every success in your studies.

Yours sincerely,

Prof. K. S. Baboo
ACTING ASSISTANT DEAN, POSTGRADUATE

c.c   Director, Graduate Studies
        Dean, School of Medicine
        Head, Department of Post Basic Nursing
        Ms. P. Mweemba
        Mr. K. Bowa

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THE UNIVERSITY OF ZAMBIA

RESEARCH ETHICS COMMITTEE

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Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia

Assurance No. FWA00000338
IRB00001131 of IOR G0000774

14 April, 2005
Ref.: 015-02-05

Mrs Florence Chela Mukupo, BSc, ZRN
Department of Post Basic Nursing
School of Medicine, University of Zambia
P.O. Box 50110
LUSAKA

Dear Mrs Mukupo,

RE: SUBMITTED RESEARCH PROPOSAL

The following research proposal was presented to the Research Ethics Committee meeting held on 30 March, 2005 where changes were recommended. We would like to acknowledge receipt of the corrected version with clarifications. The proposal has now been approved. Congratulations!

Title of proposal: **"Breast self examination among rural and urban women in child bearing age in Solwezi and Lusaka Districts"**

CONDITIONS:

* This approval is based strictly on your submitted proposal. Should there be need for you to modify or change the study design or methodology, you will need to seek clearance from the Research Ethics Committee.
* If you have need for further clarification please consult this office. Please note that it is mandatory that you submit a detailed progress report of your study to this Committee every six months and a final copy of your report at the end of the study.
* Any serious adverse events must be reported at once to this Committee.
* Please note that when your approval expires you may need to request for renewal. The request should be accompanied by a Progress Report (Progress Report Forms can be obtained from the Secretariat).
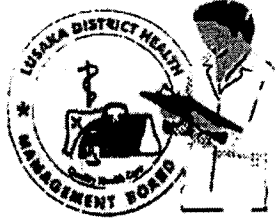
Yours sincerely,

Prof. J. T. Karashani, MB, ChB, PhD
CHAIRMAN
RESEARCH ETHICS COMMITTEE

Date of approval: 14 April, 2005   Date of expiry: 13 April, 2006

MH/DHMT-LUO

In reply please quote

MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH MANAGEMENT BOARD

19th April 2005

Ms Florence C. Mukupo
Department of Post Basic Nursing
P.o. Box 50110
LUSAKA

PERMISSION TO CONDUCT RESERCH PROJECT

The above mentioned subject refers.

This office has no objection for you to proceed.

However this should be done with minimal disruption of the day to day activities at the health centres.

By copy of this letter the health centre In-charges concerned are hereby informed forthwith.

DR. M. KABASO
CLINICAL CARE EXPERT
FOR DISTRICT DIRECTOR OF HEALTH

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Tel: 821595
Fax:821997

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
SOLWEZI DISTRICT HEALTH MANAGEMENT BOARD
OFFICE OF THE DISTRICT DIRECTOR OF HEALTH
P.O. BOX 110203
SOLWEZI

SDHMB/HN/DDH/gna/203/05

13th May 2005-

Ms. Florence Mukupo
UNZA – School of Medicine
Dept. of Post Basic Nursing
Postal Box 50110
SOLWEZI

Dear Madam

RE: REQUEST TO CONDUCT RESEACH STUDY - YOURSELF

Reference is made to your letter dated 10th May 2005 concerning the above subject matter.

Management has no objection, you have our permission is to conduct your research study in our health centres. By copy of this letter our In-charge for the health centres are informed accordingly.

Wishing you all the best.

Yours faithfully
SOLWEZI DISTRICT HEALTH MANAGEMENT BOARD

Dr. Ng'uni H.
DISTRICT DIRECTOR OF HEALTH

Cc: The Manager Planning and Development
Cc: File

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