

**AN ASSESSMENT OF THE EFFECTIVENESS OF
KNOWLEDGE OF BREAST CANCER AND BREAST SELF-
EXAMINATION IN WOMEN IN SIERRA LEONE**

BY:

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DECLARATION

I hereby declare that the whole of this thesis is my original work. It has not been submitted before for any other degree or examination to any other University. Use of any supporting materials in the study has been appropriately acknowledged.

Signature: J.H. Shepherd

Date: 29-11-04.

DEDICATION

BEING A WOMAN IS CITED AS A RISK FACTOR FOR BREAST CANCER.

This work is therefore specially dedicated to all women and specifically to those women who unfortunately have died from breast cancer or are suffering from the disease, to all women out there in the world.

This study is also dedicated to all involved in the search for a hope for lasting cure for breast cancer in order to allow women to live quality lives and to reduce the incidence of women dying from breast cancer.

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My Special Thanks to you all

ABSTRACT

This research is a follow up of a “Breast Week” which was organized in Freetown, Sierra Leone. The specific objective of this study was to assess the effectiveness of the knowledge and teachings given to the women who participated in this project. The unrecorded cases of breast lumps and breast cancer observed in women in Sierra Leone prompted the researcher to undertake this present study.

A quantitative approach was adopted and a structured interview schedule and an observational checklist guided the data collection process. A sample size of 120 women (10%) who participated in the “breast week” was obtained through systematic sampling. The first part of the study involved assessment of the theoretical background of the research topic followed by the second phase during which the women demonstrated Breast Self-Examination to detect abnormalities of the breasts.

Discussions and analysis of the findings are presented in three sections. Texts from open ended questions were categorized and explained in numerical terms as the study was quantitative in nature. The data was processed through use of SPSS and Microsoft Excel. Frequency counts were applied to the data, use of non-parametric tests on the number of women who practiced Breast Self-Examination before and after the breast week showed a statistically significant difference in the number of women now practicing BSE as a screening method for breast cancer after receiving the health education.

It was found that the majority of the women linked breast cancer to the signs and symptoms associated with it and were able to describe the disease as one that kills women if not promptly detected and/or treated appropriately. Findings indicate that the majority of the

women (78.3%) had previously had minor breast problems. An assessment of the effectiveness of knowledge on breast cancer showed that these women could identify breast cancer as a disease that affects women and may cause deaths if not detected on time or treated promptly. These women were able to demonstrate to the researcher how they examine their breasts to exclude abnormalities.

Three women had breast lumps detected through examination of the breasts during the breast week. Two of them had had the lumps removed and are currently on medication. One of the women who had a breast lump detected was financially constrained and could not afford the cost of surgery. The number of women who can now perform BSE increased (95.0%) after having the knowledge on breast cancer and BSE. The majority of the women (97.4%) received information on how to examine their breasts for breast cancer through the information provided during the breast week. It is thus concluded that the objectives of the breast week were met.

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Cancer was previously known to be a disease of the affluent world, but in recent years the incidence of cancer in developing countries has soared. According to the World Health Organization (WHO, 1997), cancer is now also a third world problem, and if existing trends continue, cancer mortality is expected to rise in the future in nearly all regions of the world. Breast cancer is said to be the leading cause of cancer among women in most developed countries and in many developing countries (Smyke, 1993). For example, in South Africa, it is estimated that cancer affects over 4,000 women per year and that the most common cancers are breast and cervical cancer (Cancer Association of South Africa, 1993). In industrialized countries, lung cancer is said to be replacing breast cancer as the most common cause of death due to cancer among women (Smyke, 1993. Pg: 94).

Breast cancer is and still remains one of the cancers affecting all age groups of women (WHO, 1997). According to the American Cancer Society, about 1 in every 8 women in the US is likely to be affected by the disease. Every year forty percent of these women die from the disease. There has been an increase of 22 per cent in breast cancer mortality over the past two decades (Smyke, 1993; WHO, 1997). A quarter of breast cancers are diagnosed before the age of fifty, and the survival rate is five years after detection of the disease (Cancer Association of South Africa, 1993). Treatment is less successful for breast cancer than for cervical cancer (Smyke, 1993). A number of studies have been done on breast cancer and its treatment (WHO, 1997; Watts, 1990; Smyke, 1993; Keitel & Kopala, 2000). According to these authors, women face greater risk of developing breast cancer if they have small families

and do little or no breast feeding and also if the age of giving birth to the first child is over 35 years. A breastfeeding pattern has been associated with a risk reduction in breast cancer especially if continued for 18-24 months. If this theory is anything to go by, women in African countries are at an advantage over countries where women do not breastfeed.

In Africa, the majority of women are known to breast feed for long periods, some even up to two years (UNICEF, 1999). In addition to this, African women are noted for having large families but at the same time suffer from breast cancer. Smyke (1993) in her book on Women's Health, states that there are different patterns in the incidence of breast cancer between women in industrialized countries and those in the developing countries. She further notes that for the most part the differences reflect differing lifestyles but that these patterns change rapidly.

Early detection of breast cancer is aided by breast cancer screening methods. Three methods are used to detect cancer of the breast:

- Examination by a trained physician
- Mammography (X-ray screening) and;
- Breast Self-Examination (BSE).

Periodic examinations by a physician, in combination with an annual mammogram for women over fifty, are recommended by the World Health Organization, where possible (cited in Watts, 1990; Hussain 2002). It was further stated that women with a family history of cancer should consider a more intensive screening programme (Watts, 1990; National Cancer Institute, 1990a). Research has shown that a combination of regular mammograms and examination by a physician has proved to be effective in reducing the mortality rate from

breast cancer (Watts, 1990). Screening programmes of this type are said to be expensive and are not yet available to the vast majority of women (Smyke, 1993). In addition, Smyke reiterated, that while we work towards that goal, all women could benefit from learning the techniques of Breast Self-Examination. In an article published by WHO (1997), it was also recommended that women over twenty years of age should examine their breasts regularly every month (Hussain, 2002).

Breast Self-Examination is reported to be less effective than a mammogram or examination by a trained physician. However, it is a valuable approach, particularly in a country like Sierra Leone that cannot afford sophisticated screening services for the entire population at risk. Breast Self-Examination is a simple, inexpensive, non-invasive and non-hazardous means of detecting breast cancer at an early stage (<http://www.nbcc.org>). One-third of cancers could be prevented if women were armed with the right knowledge (Smyke, 1993). The role of knowledge in Breast Self-Examination as one of the techniques in breast cancer screening cannot be undervalued. According to Smyke (1993, Pg: 94), "Information is power". Often women have no access to the information they need in order to bring about change. Knowledge, she stressed, is helpful only if people have the practical means of putting it to use (Smyke, 1993).

Breast cancer is one of the diseases affecting women in Sierra Leone as in many other countries. Unfortunately women in Sierra Leone have no access to modern technologies in the detection and treatment of cancers except that of surgery. However, in addition to these major constraints, the incidence of breast cancer appears to be increasing in Sierra Leone. The researcher during clinical practice has observed that there appear to be more women reporting detecting lumps in their breasts as well as those dying from breast cancer. Some women have

sought the help of traditional healers and commenced traditional healing methods such as applying herbs to their breasts as a cure. This resulted in inflammation of the breast, which then resulted in them seeking medical help. By the time the condition was found, it was in the tertiary stage when the prognosis was said to be poor. It is not known whether these women knew about breast cancer or their reason for seeking help so late. Surgery was the line of management for these women combined with chemotherapy, but with little success as those with malignancy later died despite the surgical intervention. Early screening for the detection of breast cancer is widely accepted as an important determinant in the success rate of surgery (Cancer Association of South Africa, 1993).

The lack of a database on the observed problem demanded an answer and as a result of this, the researcher made an appointment to see the Consultant Surgeon, in order to have discussions on the observed problems. This initiative was in response to the number of reported cases of death due to breast cancer observed by the researcher, some of whom were personally known to her. This observation was supported by the Senior Surgeon Specialist in charge of breast surgery and by nurses working in female surgical wards. Student midwives in training, have expressed similar concerns, over the number of women having surgery for breast tumours. However as yet, there are no empirical studies to support these statements. There is also substantial evidence from research studies conducted in Africa that women in developing countries are more likely to obtain inadequate or no access to modern technology (Smyke, 1993).

Emphasis has been placed on early detection as being vital, as most cases of patients in the developing countries are incurable at the time of diagnosis. For women to be aware of the threat they face with breast cancer and be able to make decisions on how they can combat

such threats, they need to be well informed about the signs and symptoms of the disease. Evidence is abundant that decisions made for people by other people without participation of those affected or those who have the expertise to make the most informed judgments are less likely to be understood or workable (Smyke, 1993). It was against this background that a 'breast week' was launched in November 2002.

The 'breast week' was advertised on the radio programmes and in the communities by nurse-midwife tutors and nurse-midwives in training. Following this, a radio discussion on breast cancer and methods of detection was held in Freetown prior to the breast week. A call for women to undergo a free breast examination and routine teaching on how to examine their breasts was promoted. Women had their breasts examined and at the same time were taught what to look out for and when to report any abnormalities detected. During this period, the women were also asked to repeat the breast examination to the examiner. On successful repeat performance they received counselling on where to seek help in the event of any deviation from the normal. All the women who participated in the breast week had their names registered by the nurses in a registration book provided for this purpose. A questionnaire was administered to those who made use of this offer. The questionnaire included information on demographic data, knowledge of breast cancer and its causes, menstrual history, contraceptive history, as well as obstetric history.

This study is therefore a follow up measure by the researcher to ascertain whether the information provided during the breast week has been utilised and that what was taught is being put into use. An assessment of the effectiveness of the proceedings during the breast week is the prime focus of this study.

1.2 SETTING

The study was conducted in Sierra Leone, a country located on the west coast of Africa between Guinea and Liberia. It has an area of about 72, 800 square kilometres. Freetown is the capital city of Sierra Leone and it is located in the western part of the country. The climate is tropical, with two distinct seasons, the rainy season from May to October and the dry season from November to April. The country is divided into four regions: Western Area, Eastern, Northern and Southern Provinces, which share a total of twelve districts. Each district is further divided into chiefdoms. There are 150 chiefdoms in the country. They are further divided into smaller administrative units namely sections and villages.

In 2000, Sierra Leone had a population of a little over 5 million, 51% of which were women. Sierra Leone is rated as one of the least developed countries. The rural population constitutes 68% and 32% live in the urban areas. Health and medical facilities are mainly provided by the government, but other institutions such as mission hospitals, mining companies and private organisations do provide medical assistance as a supplementary to the government's efforts. The services are delivered in hospitals, nursing homes, peripheral health units and by mobile health teams which visit selected villages at irregular intervals. These services are unevenly distributed and not accessible to all.

Skilled personnel the world over are reluctant to work in the rural areas (UNICEF, 1999). Therefore in the midst of inadequate infrastructural facilities, there is often a shortage of human resources in these areas. Rural people in search of professional medical care sometimes flock to Freetown, resulting in the breakdown in the service delivery, as staff

cannot cope with the large increase of patients. Insufficiency of beds also leads to congestion in some areas. Maternal and Child Health Aides are inadequate and cannot cover the whole rural population and so some of their work is supplemented by Traditional Birth Attendants.

The National School of Midwifery, which served as the site for the study where data was collected, is located on the top floor of the Princess Christian Maternity Hospital. The National School of Midwifery is the only Government owned institution that trains professional midwives for a period of eighteen months. A total number of about 40 students register yearly for the programme. The Princess Christian Maternity Hospital is the main referral government hospital in the country for midwifery and obstetric practice.

Assessing the health situation of women in Freetown is constrained by a number of factors. These include the rebel war (1991-2002), coupled with the lack of relevant data from the vital registration system and from hospital records on the number of cases and deaths of women due to breast cancer. These data when available are incomplete, inaccurate and difficult to analyse.

1.3 PROBLEM STATEMENT

Sierra Leone is a signatory to the World Health Conference held in Alma - Ata in 1978, with the goal to achieve health for all by the year 2000. Despite this declaration, Western models of health have failed to provide health and health care for everyone in developing countries (UNICEF, 1999). Since signing the agreement, the Sierra Leone government has worked steadily towards implementing the ideals to which it subscribed (UNICEF, 1999). The Maternal and Child Health Programme in Sierra Leone received funding from UNICEF and a reproductive health unit was set up in 2001 with the aim of addressing the health needs of

women. The objectives of these programmes included reducing maternal mortality to at least 50% by the training of maternal and child health aides and traditional birth attendants and the provision of medical supplies to vulnerable groups which included women. Despite this approach, mortality figures show no positive evidence of improvement.

The system of Primary Health Care as a means to better health is now subject to review, as the desired impact has not yet been felt. Primary Health Care is essential health care made universally available, accessible to individuals and families in the community by means acceptable to them, through their full participation and involvement, and at a cost that the community and country can afford (WHO, 1982). It forms the basis of the country's health system of which it is the nucleus. However, the current levels of Primary Health Care fall short of its desired standard in Sierra Leone (UNICEF, 1999).

The lack of basic knowledge and an effective information delivery system for breast cancer, which threatens the life and well being of women, is a typical point in this case. Lack of knowledge on how to perform simple life saving diagnostic Breast Self-Examination further compounds this problem. According to Smyke (1993), health workers assume that their clients know what to do when the majority of the women continue to be ignorant about health matters. In addition, the majority of women in developing countries do not have access to vital information regarding their health (Smyke, 1993). Despite recognition of this fact, a country like Sierra Leone has no breast cancer policy in place to address this threat and furthermore, no studies could be found in relation to cancer of the breast in Sierra Leone. The absence of a database demands effective information systems for the purpose of future referencing and access to vital statistics.

The impact or effectiveness of a programme aimed at behavioural change is of great importance in the health care delivery system. Furthermore, methods used in the delivery of health care should be relevant to the major health problems of its citizens especially the vulnerable groups. The goal of health education in Breast Self-Examination is to create awareness and increase the competence of women to meet their needs and challenges in improving their health. Because of this, an assessment of the knowledge and skills used in empowering women in BSE is of relevance.

In a country ravaged by civil war, the conclusion of war, which was the government's main focus, health and other related issues were not priorities for the government. Health care professionals need to identify the gaps and deficiencies created by such a system through scientific investigations justifiably supported by data.

The need to evaluate the effectiveness of health education in the early detection of breast cancer is desirable, as knowledge is said to be useful to those who have the practical means of putting it to use. Breast Self-Examination is a simple, inexpensive way of screening for breast abnormalities, especially in countries where women cannot gain access to modern technology. Existing programmes for women in Sierra Leone are basically focusing on the high incidence of maternal mortality and morbidity whilst breast cancer is also one of the causes of death among women in their reproductive years as well. There is no policy in place to address screening for breast cancer. There is thus the need to evaluate the effectiveness of knowledge on Breast Self-Examination if the reproductive health needs of women across the life span are to be adequately addressed and if health is indeed considered as a basic human right for all.

1.4 PURPOSE OF THE STUDY

The purpose of this study was to evaluate the effectiveness of Breast Self-Examination education in women in Freetown and its impact towards reinforcing positive learning outcomes. The main focus of the study was Breast Self-Examination as one of the screening methods used in early detection of breast cancer.

1.5 RESEARCH OBJECTIVES

- To assess if the information given to the women regarding breast cancer and Breast Self-Examination during the breast week was fully understood.
- To assess if the information given during the breast week was being utilised.
- To identify gaps, weaknesses and strengths in the knowledge and skill performance imparted during the breast week.

1.6 RESEARCH QUESTIONS

This study has been designed to answer the following questions:

1. What do women know about breast cancer?
2. What do women know about Breast Self-Examination?
3. What actions do women take when they detect abnormalities?
4. Do women who have been given prior knowledge on breast cancer attach importance to the performance of Breast Self-Examination as a screening method for breast cancer?
5. How does knowledge of breast cancer influence the habits and lifestyle of women living in Freetown?
6. Were these women able to detect abnormalities of the breasts?

1.7 OPERATIONAL DEFINITIONS

For the purpose of this study, the following are applied and used within the context in which they are explained:

- Assessment – using various methods such as an interview schedule or a checklist to ascertain whether what was taught during the breast week is being put into practice. A follow up measure on the activities carried out during the breast week.
- Breast Cancer – is referred to in this study as an abnormal growth of breast tissue seen as abnormal changes or lumps.
- Breast Self-Examination – examination of the breasts by a woman for any abnormalities using her hands.
- Effectiveness – what have been the positive changes in behaviour in terms of examining the breast for abnormalities, any detection of abnormalities after health education on how to examine the breasts, or reporting of abnormalities detected to the hospital.
- Health Education – to teach topics that pertain to caring for oneself and one's health needs so as to be knowledgeable.
- Health Promotion – the active participation in the promotion of healthy lifestyle and the prevention or early detection of a disease (Pender, 1987).

1.8 SIGNIFICANCE OF THE STUDY

Current trends in women's health globally, are revealing the high incidence of breast cancer in women (Smyke, 1993). Furthermore, studies have not been conducted to determine the severity of this problem in Sierra Leone; yet still the unreported cases of women dying from breast cancer are quite alarming. From personal experiences as a tutor of nurse-midwives, several women, young as well as old, nurses as well as laypersons, have had recent surgery to

remove breast lumps or have died of breast cancer. These cases have gone unrecorded/unresearched except for the case histories as told by the survivors themselves.

There is thus the urgent need to carry out research in these areas, as presently, there is no institute undertaking research in cancer in the country and no screening facilities, e.g. a mammogram available in the whole country. Basically, women rely on radio discussions for information on primary health care and reproductive health. Those who seek contraceptive advice, especially the hormonal method will have their breasts examined to exclude breast abnormalities. Women also have their breasts examined during the antenatal period.

Sierra Leone as a country is faced with the problem of accessing reliable data; this situation has been worsened by the 10-year rebel war in the country where a number of health facilities have been destroyed and rendered non-functional (UNICEF, 1999). This study will serve as an initial stepping stone and starting point to meet the growing challenges of breast cancer that are currently going unnoticed in Sierra Leone.

Consequently, findings from assessing the effectiveness of health education on breast cancer from the informed women in Freetown (based on data available on previous teachings on Breast Self-Examination in November 2002) will be of future benefit to non-informed women. The information generated from this study will contribute to improving awareness about client participation on matters regarding their health, specifically Breast Self-Examination that will promote future research into breast cancer. Breast cancer is silently killing women, many of whom had no knowledge on Breast Self-Examination as a screening method for breast cancer. Therefore the gaps and deficiencies highlighted will be used to promote future research interests in breast cancer. Important findings will be utilised to

formulate a proposed plan of action to address the issue of education and awareness among women at all levels in the Sierra Leone community to promote early detection and treatment of breast cancer.

1.9 CONCLUSION

In this chapter, the background, purpose, significance and objectives of the study have been described. The problem of lack of appropriate policy to address breast cancer in Sierra Leone has been highlighted. Breast cancer is a problem of concern in today's society. Empowerment of women with information on early detection is of paramount importance especially in countries without modern technologies for breast cancer screening.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, discussion will focus on breast cancer, risk factors, treatment and the various screening methods used in the detection of breast cancer. The role of health education in the prevention of breast cancer is also discussed. Finally, the theoretical framework for the study will be described.

2.1.1 Breast Cancer

Breast cancer should be an issue and concern of every woman in today's society. According to Fentiman (1999), breast cancer is the most prevalent type of cancer in women. Similarly, the Cancer Association of South Africa (2000) report that breast cancer is one of the most common cancers among South African women affecting over 5000 women per year. It is said to be the most prevalent cancer amongst White females and the second most common cancer amongst Black women. Breast cancer is the most common non-skin malignancy among women in the United States and is second only to lung cancer as a cause of cancer-related death. Keitel & Kopala (2000), have described the different types of breast cancer. The type of cancer, according to them, is labelled according to the site where it arises, if it is invasive and the appearance of the cells.

2.1.2 The Incidence of Breast Cancer

According to the Cancer Association of South Africa (2000), cancer is the general term used for more than 100 diseases characterized by an uncontrolled abnormal growth of cells. It

further states that one out of ten lumps in the breast is cancerous. In the annual statistics in 1987, as quoted by the American Cancer Society, approximately 130,900 new cases of malignant breast tumours were discovered, and approximately 41,300 women died of the disease (American Cancer Society, 1995). Seventy five percent of new cases of breast cancer is said to occur in women age 50 and older. Initial breast cancer diagnosis occurs in women between 40 and 49 years of age (Keitel & Kopala, 2000). Apparently breast cancer is less prevalent in women under 40 years, however, Keitel & Kopala have stressed that younger women tend to experience a higher mortality from the disease. In South Africa in 1988, 3324 per 100,000 women were diagnosed with breast cancer. The age group most commonly affected was between the ages of 55 and 85 years, with the highest incidence amongst the 80–84 year age group (South African National Cancer Registry, 2001). In the United States, the overall incidence of breast cancer increased in the early 1970's to the early 1990's and then decreased approximately 0.6% from 1991 (American Cancer Society, 1995). This drop has been linked to advances in medical research and earlier detection. Consequently, the overall survival rates have increased.

[†] A review of the literature showed that the cause of breast cancer is unknown and that it cannot be prevented (Berger & Bostwick, 1994; Huffman, 2000; Watts, 1990). Understandably, breast cancer cannot be prevented but can be diagnosed much earlier through breast screening (Huffman, 2000). According to the Breast Cancer Society of Canada, 70% of all breast growths whether malignant or benign, are discovered during breast self-examination; nine out of ten growths are detected by women themselves. According to statistics, eight out of ten breast growths are non-cancerous (Watts, 1990).

2.1.3 Risk Factors

One out of eight women has a lifetime risk of developing breast cancer (Keitel & Kopala, 2000; Dixon, 1995). Being female is the highest risk factor for breast cancer and increasing age is the second highest risk factor (American Cancer Society, 1995). It was further stated by Keitel & Kopala (2000) that a family history further increases one's risk and that 70% of women diagnosed with breast cancer had no known risk factor. Keitel & Kopala (2000) listed the risk factors of breast cancer as including factors such as age, genetics, hormonal activity, lifestyle factors such as diet, alcohol use, and exercise. Personal or family history of breast cancer and environmental factors are also said to be risk factors for breast cancer (Dixon, 1995). It was further disclosed that women who once had breast cancer are at increased risk for a new primary breast tumour.

According to Katzenstein (1994, as cited in Keitel & Kopala 2000), excessive intake of alcohol has been associated with an increased risk of breast cancer. Smoking was also identified as a risk factor for developing breast cancer and research findings have established that smokers have a 25% greater risk of dying from breast cancer than non-smokers. In addition to these factors, Keitel & Kopala (2000, Pg: 27) cited stress and depression as being linked with breast cancer. They however concluded that this theory has not yet been proven by research. The Cancer Association of South Africa included in their list, risk factors such as obesity, starting periods early, late menopause, prolonged use of hormone replacement therapy with high dosage and also a high fat diet in addition to the above mentioned. Beliefs such as not wearing a brassiere or wearing an ill fitting brassiere, overactive or aggressive fondling of the breasts are held by women as being responsible for causing breast cancer (Keitel & Kopala, 2000). In their discussion, they mentioned that the literature did not show

any relationship or association with these beliefs. However, women continue to believe that these events or conditions can cause cancer.

2.1.4 Age as a Risk Factor

Age is mentioned as one of the risk factors of breast cancer (Keitel & Kopala, 2000). The age group most commonly affected is between the ages of 55 and 85 years, with the highest incidence being amongst the 80-85 year age group (South African National Cancer Registry, 2001). Breast cancer is said to be more common in White women across all age groups. It is more frequent in Black women under the age of 45 (Keitel & Kopala, 2000). However, WHO recommends that Breast Self-Examination is vital to all women from teens to seniors, and that all women should be aware of breast health and not only those with a history of breast cancer, as breast cancer research shows that 70% of women diagnosed with breast cancer have no risk factor (WHO, 1988).

2.1.5 Detection of Breast Cancer

Detection of cancer at an earlier stage is linked to better outcomes (Haskell, 1995; Berger & Bostwick, 1994). The slogan on an article by the Cancer Association of South Africa retrieved from the Internet states that “Breast cancer can be cured if caught on time”. The need for one to be knowledgeable about their breasts has been spelt out in various articles on breast cancer (Cancer Association of South Africa, Keitel & Kopala, 2000; & Smyke, 1993) Similarly finding out about the status of the breasts is being promoted by Breast Cancer Associations world wide as no one is immune to breast cancer (National Cancer Institute, 2000). In a pamphlet on breast cancer, the Cancer Association of South Africa (2000) stressed that regular examination can set women free and they further added that early detection is the key to survival.

In order for a woman to detect breast cancer early she needs to be aware of the changes that are suggestive of breast cancer. This intervention involves performing monthly breast self-examination, observing for and noting abnormal changes in the breasts and reporting to the doctor promptly. An annual physical check up by the doctor is also recommended. Women are also advised to go for a mammogram especially if they happen to be in the high-risk group, that is age 35-39 (The Cancer Association of South Africa, 2000).

In the 1990's major efforts were directed towards women's health research and women's health care. An office of research was established in the United States in September 1990. New interventions such as genetic testing for breast cancer are now being used to screen women with risk factors for a mutated gene. Surgery, chemotherapy, endocrine therapy, biologics and vaccines are also part of the treatment offered to women who are likely to develop cancer or are affected with cancer. Another new development in breast cancer detection is that of using heat sensitive pads, these pads are worn inside the brassiere and act as an early indicator of breast cancer. Currently it is approved as a supplement to more traditional tests.

The more traditional screening methods used in the detection of breast abnormalities including cancer are:

- **Clinical Breast Examination**
- **Mammography**
- **Breast Self-Examination**

These methods will be discussed later in the study in Sections 2.1.8, 2.1.9, and 2.2 respectively in the order as indicated above.

2.1.6 Treatment of Breast Cancer

Treatment of breast cancer is dependent on the stage and type of cancer as well as the age and health of the woman (Haskell, 1995). Basically, the treatment of breast cancer involves surgery in which the lump or the whole breast is removed in addition to the surrounding lymph nodes (Haskell, 1995). This management is done in conjunction with radiotherapy. In the late stages, or to prevent reoccurrence, chemotherapy is used alongside surgery and radiotherapy. In some instances surgery is performed and followed up with chemotherapy and/or radiation. The Cancer Association of South Africa however noted that the treatment of each patient is individualised. Breast cancer and its treatment have physical and psychological implications for women.

Physical and psychological trauma are associated with breast surgery (Keitel & Kopala, 2000). Women who are concerned about their body image after removal of the affected breast do opt for reconstruction surgery. This involves tissue replacement and plastic surgery. Advancement in technology has also made it possible for women to wear prostheses under their clothes to make the breasts appear normal. If treatment of breast cancer involves mastectomy, a woman is faced not only with the prospect of a frightening disease, but also with the loss of a part of her body which is essential to her femininity (Keitel & Kopala, 2000). Reconstructive surgery is her only hope.

2.1.7 Prognosis

The prognosis of breast cancer is influenced by a myriad of factors some of which cannot be prevented (Haskell, 1995, Watt, 1990). These factors have been mentioned in previous discussions. According to statistics, the odds for a complete recovery from breast cancer are highest (90% +) when the disease is detected early (National Cancer Institute, 2000). The

earlier breast cancer is detected, the easier it is to treat. This means that the percentage of patients surviving five years or longer after diagnosis of breast cancer, apparently detected the cancer at its early stage (Cancer Association of South Africa, 2000). So far there is no specific intervention to stop cancer, but according to researchers if cancer is detected in the early stages the prognosis is good (Watts, 1990; Keitel & Kopala, 2000; Haskell, 1995). If this is the case, then women need to be more knowledgeable about their body's function in order to note abnormal changes. The overall impression is that the prognosis of breast cancer depends not only on a single factor but on several of them.

2.1.8 Clinical Breast Examination (CBE)

One of the traditional methods of breast cancer screening includes clinical breast examination (CBE). LoBuono (2001) describes CBE as being an integral part of a complete breast cancer-screening program. In clinical breast examination, a physician does a manual breast examination. The examination according to LoBuono (2001), involves a thorough examination by the physician to enable the detection of subtle changes in the breast tissue. The doctor, in a clinical breast examination, uses the same patterns used in BSE. Physical breast examination by a doctor every three years for women 20-39 years of age and yearly examination for women age 40 and more was recommended by the American Family Physician (2003). The reason for this, as discussed by LoBuono (2001), is that not all cancers/tumours are seen on mammogram. Women are advised to have their breasts examined regularly by a doctor or health care professional. In addition to this exam, LoBuono (2001) stressed that women should do monthly Breast Self-Examination between clinical checks by the doctor; so that they learn what is normal for their breast, and as a result can detect changes easily.

2.1.9 Mammogram (Mammography)

The mammogram is an x-ray examination of the breast and is used as a screening method for breast cancer as well as in its diagnosis. Keitel & Kopala (2000) described the mammogram as an x-ray of the soft breast tissue. It is done by a radiologist in a breast diagnostic centre or at the physician's office. Regular mammograms are not routinely advised for young women under the age of 35 who are not at high risk. Use of the mammogram however is not without its own risks. Berger & Bostwick (1994) mentioned that the risk of developing radiation-induced breast tumours is high in girls and teenagers. This has been associated with use of the mammogram. In addition to this, the density of the breast tissue in younger women makes it difficult to distinguish a mass or dense spot on the mammogram. Therefore less accurate pictures are obtained. Women with large breasts are said to get more accurate pictures than small-breasted women, as their breasts can be easily positioned on the film plate (Berger & Bostwick, 1994).

2.1.9.1 The Examination

Special compression plates are used to flatten the breast to uniform thickness. The breast is squeezed between two vertical plates. According to Keitel & Kopala (2000), some women complain of minor pain and discomfort from the squeezing. The entire examination usually takes less than 5 minutes. The location, character, and extent of the disease can be seen on a mammogram. The cost of a mammogram in 1994, ranged from \$50 to \$150; this figure was quoted by Berger & Bostwick (1994).

The use of the mammogram as part of breast cancer screening has been widely promoted especially in countries where such facilities are available. Mammograms often reveal a

suspicious area in the breast that needs to be checked; 80% of findings on mammogram are not cancerous (Keitel & Kopala, 2000). According to Keitel & Kopala (2000), some doctors credit mammograms with reducing breast cancer mortality, while others condemn them as being unreliable. In an attempt to achieve better outcomes Keitel & Kopala (2000) reiterated that the technology could be improved. In addition, it was stressed that the mammogram alone is insufficient as a screening tool and should be used in combination with manual examination. A similar comment was made by Berger and Bostwick (1994) that the mammogram is a very sensitive method for detecting breast cancer, however, it was described as not “perfect”.

According to Mitra, Baum, Thornton, and Houghton (2000), mammography is a complex, expensive and partially effective test. They argued that there is sufficient circumstantial evidence to suggest that clinical breast examination is as effective as mammography in reducing mortality from breast cancer and that comparison between the two screening methods in a randomised trial is worth researching. In a study cited by Mitra et al (2000) comparing the effectiveness of mammography with that of clinical breast examination, in which over a million women aged 50 to 60 were screened, it was found that a little over 5000 cancers were detected with the use of the mammogram. Of these, 60% were invasive cancers (Mitra et al, 2000). It was further argued that such cancers could also be detected by clinical breast examination.

In a similar US breast cancer detection study, 39% of cancers 1cm in size were detected by clinical breast examination, whereas in situ cancers accounted for 18% of the cancers detected by mammography that would not have otherwise been detected by clinical breast examination; 22% of invasive cancers less than 1cm in size were detected by mammography, which according to the researchers, clinical breast examination could not have succeeded in

doing. The National Cancer Institute recommends that women in their 40's have a mammogram every 1-2 years, whereas the American Cancer Society recommends that women be screened first at age 40 and then every year after (Mitra et al, 2000; Harvey, Miller, Baines & Corey, 1997).

Despite this differing view they both agree on annual mammogram after 50 years of age. This has implications for women below age 40 as breast cancer affect different age groups. In effect, women who do not fall under the recommended age group for mammogram have but little option than to rely on BSE and/or clinical breast examination. To address the issue of use of breast cancer detection techniques for women over 40 years, Dr Nancy Baxter of the Canadian Task Force on Preventive Health Care cautions that in addition to Breast Self-Examination, women over 40 years should turn to Mammography and Professional Breast Examination instead of relying on Breast Self-Examination (Baxter, 2001).

2.2 Breast Self-Examination (BSE)

Breast Self-Examination (BSE) is one of the screening methods used in the early detection of breast abnormalities including breast cancer. It has been described as easy to learn, simple to perform, does not require a special setting and can be part of a woman's normal routine (Berger & Bostwick, 1994). BSE is a monthly examination that involves looking at and feeling the breast for changes; it has been credited with saving the lives of many survivors of breast cancer (Berger & Bostwick, 1994). It is self-examination, but the technique is initially taught by nurses and doctors or it can be done by the woman through directions as shown in books, women's magazines and from other sources of information, such as radio and television.

A woman is said to be more knowledgeable and comfortable with the process when it is done on a regular basis. Periodic Breast Self-Examinations are very important for the early detection of breast cancer. According to Berger & Bostwick (1994), BSE forms an essential part of a woman's health care and should be conducted preferably seven to ten days after menstruation. The best time to examine the breasts is after the menstrual period when the breasts are not tender or swollen (Northrup, 1999; Cancer Association of South Africa, 2000). Menopausal women and those who do not have regular periods are advised to examine their breasts on a monthly basis, that is on the same day every month (Hussain, 2002).

2.2.1 How to Perform Breast Self-Examination (BSE)

Breast Self-Examination involves examination of the breast manually by the woman herself. It consists of visual inspection and palpation. There are different ways of performing BSE - standing in front of a mirror, lying down, and sitting up. From these methods, a woman can choose one, or decide to use all three. BSE can also be done in the shower or bath, when the skin is wet and slippery (Cancer Association of South Africa, 2000). In order to perform BSE a woman needs to know how it is done, what to look out for, and what to do if any abnormality is detected. A woman needs to know what her breast normally looks like in order for her to detect any change from the normal. During the examination, women are told to look out for the following changes in both breasts during BSE (Berger & Bostwick, 1994; Hussain, 2002; Keitel & Kopala, 2000):

- Differences in the size and shape of the breasts
- Change in the appearance of the breast tissue
- Skin rash, scaling, puckering, and dimpling on the breasts

- Discharge from the nipple such as blood, pus, or offensive discharge.
- A lump that is hard, soft, mobile or fixed, enlarge lymph nodes or unusual lumps
- Swelling, masses, sores or thickening
- Redness, and or heat in the area
- Pain and tenderness
- Prominent veins in the breasts
- Nipple inversion

(Berger & Bostwick, 1994; Hussain, 2002; Keitel & Kopala, 2000).

2.2.2 Examination of the Breasts

To examine the breasts visually, the woman should stand in front of a mirror in a well-lighted room and carefully observe all sides of the breast for unusual characteristics. Differences are noted in the shape and size. The changes in the shape can be observed by placing the hands at the sides, raising both hands clasped behind the head with the hands pressed forward and hands firmly pressed on the hips with shoulders and elbows pulled forward. Normally the outline of the breast should be smooth (Berger & Bostwick, 1994; Keitel & Kopala, 2000).

2.2.2.1 Palpation

This is the most important part of the examination. The breasts can be examined whilst standing or lying down. There are several patterns that can be used, ensuring that the whole breast is palpated. Palpation should involve areas surrounding the breasts such as the areas above the breast, collarbone and the armpit. One can start from the top of the chest and palpate the breast in a vertical pattern, carefully compressing the breast tissue, strip by strip, until all the areas on the breasts have been examined. Another pattern as described by Berger & Bostwick (1994) involves examining the breasts by moving the fingers in a circular manner round the breast right up to the nipple or dividing the breast into portions outer and inner until

the whole breast has been examined. In another description of performing Breast Self-Examination, the Cancer Association of South Africa (2000), outlined the procedure in three steps:

1. Look.
2. Watch for
3. Feel

These steps mentioned by the Cancer Association of South African (CANSA, 2000) are similar to that discussed by Berger & Bostwick (1994). However, the directions a woman should follow when feeling the breast according to CANSA (2000), are listed in a simplified order as follows:

- Lie down and put one arm behind the head.
- Use the finger pads of the three middle fingers of the other hand, and feel for lumps or thickenings
- Press lightly, but firmly enough to really feel the breasts. A firm ridge in the low curve of each breast is normal.
- Move around each breast in a circular manner, covering every part of the breast.
- Examine the armpit in the same manner, starting in the hollow and working your way down towards the breast.
- Examine the other breast and armpit in the same manner.

The examination can be performed while lying down. The woman lies flat on her back with the left arm behind her head and a pillow or towel rolled under the left shoulder to make examination easier. The breast is then examined using, the strip, circular or wedge pattern as

described above. The same procedure is repeated on the right breast. Any abnormal changes observed should be reported to the doctor for further examination and proper diagnosis.

Differences in the technique of performing BSE do exist but however, according to Berger & Bostwick (1994), whatever method of approach that is used is not of relevance. They agreed that, what is however important is that the pattern selected is used consistently, done thoroughly and deliberately to ensure the examination involves the whole breast.

2.2.3 Diagnosis of Breast Cancer

It must be noted however that these changes are signs that can lead to the early diagnosis of breast cancer and must be reported to the doctor. Diagnosis of breast cancer is only made after a thorough examination by the doctor is performed followed by the necessary investigations. There are some observed abnormal changes or breast lumps that are not cancerous. In order to make a proper diagnosis, Keitel & Kopala (2000) point out that it is imperative for a woman to be referred to a breast surgeon for consultation if a solid mass is detected. An expert radiologist may be able to diagnose some benign conditions; biopsies are generally performed to determine whether a lump is cancerous.

Watts (1990) maintains that the exact mechanism by which a cancer arises is complex and poorly understood. He went on to add that the growth pattern and metastatic potential of a cancer is usually predetermined in advance before clinical detection of the cancer. Watts (1990), however maintains that with the use of breast screening procedures some cancers can be detected. A biopsy may be recommended.

2.2.4 Research Findings on Breast Self-Examination

The accuracy and specificity of Breast Self-Examination is said to be largely unknown (Watts, 1990). However, Breast Self-Examination is still regarded as and promoted as a practice that empowers women, as a way of taking control in the face of this widely feared disease. In 1994, the Canadian Task Force, as part of its conclusion recommended that there was insufficient evidence to recommend for, or against Breast Self-Examination (Mittra et al, 2000). They however cautioned that women are not being advised to stop performing Breast Self-Examination and stressed that those who request to be taught the procedure, should be instructed to perform it in a proficient manner (Mittra et al, 2000).

Napoli (2001) reiterated that women themselves, in the course of normal everyday practices, showering, dressing, and making love, find most non-mammography-detected breast tumours. Considering the fact that BSE helps women to detect abnormalities in their breast, Berger & Bostwick (1994) buttress the benefits of BSE by concluding “Many women fear finding a breast lump and therefore avoid checking their breasts; this neglect can prove to be foolishly dangerous” and caution that “It may even allow cancer to go undetected and spread outside the local breast tissue, thus lessening a woman’s chances for cure and long-term survival (Berger & Bostwick, 1994: Pg 12). In developing countries where women cannot access modern diagnostic tools such as a mammogram, women rely on BSE as the available option. Chiffriller (2003:1) writes that, “Examining your breasts is your greatest weapon to fight breast cancer”.

Mittra et al (2000) states that most research studies on BSE were focused on its effectiveness in reducing mortality due to breast cancer. In a study done in the United Kingdom, which was conducted in one Chinese and one Russian randomised trial, the role of Breast Self-

Examination in reducing breast cancer death was the main focus (Mittra et al 2000). Women in the BSE group did show slight improvement in breast cancer mortality after being followed up for a period of five to 14 years, though the difference was not of significance. Findings did not however demonstrate a reduction in breast cancer mortality or show any significant improvement in the stage at which the cancer was detected. According to their results, findings suggest that Breast Self-Examination is not effective in reducing mortality from breast cancer, but however, the researchers concluded that it is a relatively simple and inexpensive screening method.

These research studies on breast cancer mortality were carried out to prove whether performing Breast Self-Examination prevents death from breast cancer (National Cancer Institute, 2002). Such studies however did not look at the effectiveness of knowledge on BSE in detecting breast abnormalities including cancer. From the above, it is quite evident that detecting a tumour would not prevent death. Further action would be needed if a tumour were detected. The argument that BSE will reduce mortality is illogical, the steps taken after detection is what results in reduced mortality. Arguably, Breast Self- Examination cannot be used as a key determinant in reducing cancer mortality but on the other hand, its benefit in early detection of breast cancer cannot be undervalued as studies show (Keitel & Kopala, 2000).

The principal objective of teaching BSE is for women to detect abnormalities early and to report them promptly so that interventions can be taken which will improve their chances of survival. A critical analysis of studies on BSE in relation to breast cancer mortality reveals gaps in the studies, as these studies failed to note that various factors might have been responsible for the mortality in cancer such as the type of cancer, the stage at which it was

detected, the time of reporting by the woman, and her state of health at that time. The effectiveness of BSE in detecting breast cancer was not adequately addressed.

2.3 The Role of Primary Health Care in BSE

One policy that was adopted by WHO in 1981 was “Health for all by the year 2000”. Five general principles were embodied in this policy as a means of approach. Primary Health Care was identified as one such strategy for attaining the goal, health for all; this concerns not only disease prevention and control, but also health promotion and care. The Primary Health Care approach aims at providing affordable, accessible, and acceptable services so that all will receive optimum health. In embracing the Primary Health Care concept in the study of BSE, Mitra et al (2000) maintain that the criteria for an ideal screening tool for breast cancer should be one that reduces mortality from breast cancer while at the same time having a low false alarm rate and being relatively cheap. Of the three modalities for breast cancer screening, i.e. Clinical Breast Examination, Mammogram and Breast Self-Examination, they agreed that Breast Self-Examination fulfils two of the criteria. The criteria for breast screening as discussed by Mitra et al (2000), is of relevance and has far reaching implications for developing countries that do not have policies on breast cancer screening and where the majority of the people cannot access professional services due to high costs. Mitra et al (2000) further stressed that an ideal screening test should be simple, inexpensive, and effective.

In comparison, the mammogram is said to be complex, expensive, and only partially effective (Mitra et al, 2000). It is worth noting that no study has compared Clinical Breast Examination to no screening. Studies have however shown that reductions in breast cancer mortality using the mammogram alone are comparable to those using the mammogram plus Clinical Breast Examination (Mitra et al, 2000).

2.4 Knowledge of Breast Self-Examination

It is increasingly being recognised that knowledge guides action and may influence behaviour (Kemmm & Close, 1995). Arguably, knowledge by itself is not enough; the link between knowledge and behaviour change is said to be more complex than is generally assumed (Kemmm & Close, 1995). The idea of teaching women Breast Self-Examination was spawned in the mid-20th century. During this period women were raised to avoid touching their breasts (Napoli, 2001). Napoli further states that the change from this belief has made women of today's society feel more comfortable with their bodies, and as a result those who have been educated on breast self-examination tend to see the doctor more promptly.

Nonetheless, some women are still ignorant about the various methods of detecting breast cancer. The introduction of modern technology such as the mammogram and its use as a diagnostic tool has however not been universally available to all women. According to a review of the literature, it is now recommended that women be knowledgeable about their breasts and the dangers of breast cancer (Smyke, 1993; Cancer Association of South Africa, 2001). The role of knowledge cannot be undervalued in health promotion and prevention. As reiterated by WHO, "knowledge is gained through information provided, it also comes from experience" (WHO, 1998).

The role of knowledge in Breast Self- Examination as one of the techniques in breast cancer screening cannot be undervalued. Creating awareness and increasing awareness is an aspect of breast health. According to Smyke, (1993: 136) "Information is power". Often women have no access to the information they need in order to bring about change. Knowledge, she stressed, is helpful if people have practical means of putting it to use (Smyke, 1993). Women with knowledge on BSE are likely to report any abnormalities detected (Smyke, 1993).

According to Smyke (1993) improvement in health status can be brought about by education of women. The role of nurses in informing, educating, and health promotion cannot be underestimated.

“Breast cancer is said to be cured if caught in time” (Napoli, 2001:1). Literature also supports the fact that early detection and diagnosis are the best treatment of breast cancer (Watts, 1990; Keitel & Kopala, 2000; Berger & Bostwick, 1994). This view is further supported by the Cancer Association of South Africa, as the month of October is observed as breast cancer awareness month with the theme “The key to early detection of breast cancer is examining your own breasts”. It is quite clear from these discussions that avoidance and delays in performing BSE and seeking medical care can result in more deaths from breast cancer (Keitel & Kopala, 2000).

In contrast, Northrup (1999) noted that although most women are aware of Breast Self-Examination, they do not examine their breasts. She however added that the earlier that the habit is established, the more likely it will be used for life and thus makes one knowledgeable for life. Admittedly, Breast Self-Examination as a diagnostic tool does not only detect cancer but also detects abnormalities of the breast that are not cancerous.

2.5 The Role of Health Education in Breast Cancer Screening

Health education is one very important method of health promotion (Kemmer & Close, 1995). Health education is central to Primary Health Care. The ability for people to know how to carry out their own health care is important for positive behavioural changes for their own benefit (WHO, 1988). It was further stressed that this involves the adoption of certain types of behaviour and style of living beneficial to health. According to the World Health

Organization, knowledge is gained through information provided. It also comes from experience (WHO, 1988). Arguably, positive healthy behaviours should be identified and encouraged (WHO, 1988). Detecting disease at a stage where it can be effectively cured should be encouraged through empowerment with the necessary knowledge.

Keitel & Kopala (2000) state that educating women about breast cancer risks could potentially have an impact on women's health if the information is delivered in such a way that would motivate them to comply with recommended guidelines. As such, knowledge in BSE as part of screening can help many disease processes to be reversed if they are detected early, while treatment at a later stage may be less effective (Kemmm & Close, 1995, Cancer Association of South Africa, 2004). The United Kingdom government in 1992 set out a series of national targets for health named "Health of Nation Targets". One of the target areas was to reduce the death rate from breast cancer in a population invited for screening by at least 25% by the year 2000.

Health education has been adopted as a way of empowering women to take the initiative regarding their health (Hubley, 1993). Awareness of health issues affecting the general well being of women is of relevance in today's society. Kemmm & Close (1995) discussed health education as raising the awareness of health issues, and helping people acquire the skills and knowledge for health.

A statement by Mahler (WHO, 1988) supports this view. He stated that the world's health would improve only if people themselves become involved and have a say about their own health. In addition to this, health professionals should share with them appropriate information and should assist them in choosing from alternative solutions in setting their own

targets and should evaluate their efforts. Primary Health Care as emphasized by WHO, is primarily concerned with health promotion and education (WHO, 1988).

Kemm & Close (1995) define health promotion as the name given to all activities that are intended to prevent disease and ill health. As a means of enforcing such health related activities, the Beijing platform recommends that preventive programs addressing threats to women's health be strengthened (WHO, 1995). Breast Self-Examination was discussed as one such activity. Based on this premise, health education of women on BSE has a key role to play if the desired target is to be met.

Various programs have implemented models of health education and include the '**KAB Model**', meaning knowledge, attitude and behaviour (Hubley, 1993; WHO, 1988). The **KAB** model was criticized as laying more emphasis on avoiding diseases rather than promoting positive health. Another model has been the '**Empowerment Model**' (Hubley, 1993; WHO, 1988). Discussions on this model for health education give credit to it for equipping individuals with skills and information that gives them the power to take control of their own health. Such a model is of relevance in health education on BSE as it involves not only provision of information, but it further ensures that women are also equipped with the skills for performing BSE on their own.

The objectives of teaching BSE is for women to know about breast cancer and its risks, how to examine their breasts regularly, report early any abnormalities associated with breast cancer and to seek prompt medical advice. This in effect will help them to get a better prognosis and thus increase the survival rate from breast cancer.

2.6 Conclusion

Although there appears to be some controversy over BSE in the reduction of breast cancer mortality, the main focus of this study however is that of assessing its effectiveness based on information received. On the whole, discussions have been centred on breast cancer, its incidence, diagnosis and the role of primary health care and knowledge in BSE. It is imperative to conduct an assessment on the effectiveness of BSE as a screening method for breast cancer in women who have received such knowledge and skills. BSE is seen as a means of empowering women to improve their quality of life with the aim of early detection and better prognosis. This is in keeping with the primary health care concept of “Health for all” by the year 2000”.

In this chapter, an attempt has been made to discuss issues generally with regards to breast cancer and Breast Self-Examination. Admittedly, breast cancer as a topic, encompasses a wide range of literature and research studies. Therefore a review of the literature for this study gives an overview of breast cancer and methods of detection in accordance with the specific objectives of the study. It must be noted that little or no literature on BSE could be found in relation to African women.

2.7 THEORETICAL FRAMEWORK

An appropriate framework for this study is one based on the individual’s participation in health care promotion. Two models which address self-care and health promotion are the “Self-Care Nursing Model” described by Orem (1980) and Pender’s “Health Promotion Model” (Pender, 1987). Pender’s Health Promotion Model is based on the premise that one’s knowledge and beliefs about health and illness determines health behaviour and positive behaviours should be encouraged (Pender, 1987). Although this statement applies in Breast

Self-Examination, it does not sufficiently address the specific answers that were raised in the research nor does it explain the context in which this study is carried out.

The performance of Breast Self-Examination (BSE) requires both knowledge and skills in order to promote health performing habits. Hence the choice of Orem's Self Care Nursing Model. The Self-Care Nursing Model of Orem (1980) has been selected for this study, as it addresses the key concepts in this research in an efficient and fulfilling manner.

2.7.1 Orem's Self-Care Nursing Model

Orem's general model of nursing is composed of three interrelated constructs: self-care, self-care deficit, and the nursing system (George, 2002). The Self-Care Nursing Model revolves around the concept of self-care, self-care deficit, self-care requisites and therapeutic self-care demand. Basically a combination of these concepts is embraced in the rationale behind teachings on Breast Self-Examination and will adequately address the practical as well as theoretical components of the study. The **"Self-Care"** Concept refers to an individual's continuous contribution to his or her own existence, health and well-being (Orem, 1980). In essence Orem sees each individual as having **"Self-Care Requisites"**. This theory is consistent with the idea of teaching Breast Self-Examination to women. The emphasis is for them to put into practice activities that they initiate and perform on their own behalf, as a contribution towards their self-care.

The ability for women to effectively perform BSE contributes in a specific way to maintaining life, health and well-being (Orem, 1980). This requires the adoption of life saving techniques through engaging in self-care. The totality of these self-care actions performed over some duration through the use of methods, related sets of procedure and actions falls

within Orem's "**Self-Care Demands**". The ability to meet those requisites is called the "**Self-Care Agency**" and depends on a number of factors such as age, general state of health, values and goals, usual pattern of response to internal and external stimuli, available resources and the extent of health care knowledge. Lack of knowledge of breast cancer and methods of detection spells out the "**Self-Care Deficit**" according to Orem's perspective. Provision of knowledge and skills is required if the care abilities are less than those required for meeting a known self-care demand. An environment that promotes personal development in relation to becoming able to meet those needs is required (Orem, 1980).

Whilst working within the Self-Care Nursing Model, the theory provides a framework for the nurse to identify those self-care deficits in the performance of Breast Self-Examination. The nurse is seen within the context of assisting the client in developing ability for self-care to meet present or future demands for preventive action (Orem, 1980). A creative effort is made by the nurse to help another being sustain habits that will produce goal directed behaviours. Knowledge deficit on the part of a layperson needs to be taught in order for one to be knowledgeable on breast cancer and relevant disease conditions affecting the breast. The duty of the nurse is to act as an educator, teacher and counsellor so that the client will engage in self-care activities.

Although the theory is centred on the client, an additional aspect of the theory is that nurses can help their clients to achieve positive behavioural changes through interventions such as health education. Nurses can also gain knowledge as well by doing research in the subject. This point is further supported by Polit, Beck & Hungler (2001) as they state, "The ultimate goal of research is to define, develop, refine and expand a body of knowledge". Knowledge

deficit can be discussed at various levels in the Self-Care Nursing Model. Informing, educating and supporting the client in this study are aimed at the primary level of care.

The preventive aspect in Orem's words centres on "The prevention of hazards to human functioning and well being". This means that the idea of a woman observing her breasts for abnormality will help her in the maintenance of the integrity of the structure of the breasts as well as its functions through early detection of deviation from the normal. The therapeutic Self-Care Demands then make her periodically examine her breasts as part of her normal routine care. The need for clients to incorporate newly prescribed, complex self-care measures into their self-care systems requires the performance of specialized knowledge and skills acquisition through training and experience (Orem, 1980). The nurse promotes self-care through supportive educative helping system, which is the ultimate goal of nursing (Orem, 1980).

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the methods used in evaluating the effectiveness of health education in breast self-examination. Also discussed are the various methods of ensuring that the research instruments used in the study meet the required standards in terms of reliability and validity and analysis of the data. According to Vithal & Jansen (1997), a data collection plan sets out in detail a strategy for collecting data. The typical description of a data plan includes the following elements:

- The general methodological orientation
- The research parameters within which the data will be collected; and
- The research instruments.

A quantitative approach was used in this study. In a quantitative study, the research design spells out the strategies the researcher plans to adopt to collect and present information that is accurate and interpretable (Polit, Beck, & Hungler, 2001). The methods applied here basically involved use of a structured interview schedule and a checklist as a means of collecting data in order to arrive at responses that could be quantified and analysed as numeric values. According to Blaikie (2000), an important advantage of using the structured interview schedule is that it tests the objectivity and authenticity of the study. Furthermore, structured interviews filled out by the interviewer have definite advantages because they can be administered to respondents who cannot read or write (Bless & Higson-Smith, 1995). This statement is quite supportive of the fact that most of the women who participated during the breast week were illiterate. Therefore this approach to the study helped the researcher to record comprehensive and objective data required for this study. The specific advantage of the structured interview schedule survey to be used in this study is the acquisition of information

regarding the prevalence, distribution, and interrelationships of variables within the sample population. Another advantage is that the researcher can compare the responses of large numbers of participants to determine the frequencies of certain answers and the relationships between answers to the different methods used in performing BSE (Bless & Higson-Smith, 1995; Polit et al 1997). Structured interview surveys also collect information on people's actions, knowledge, intentions, opinions, and attributes (Polit et al, 2001). Observational studies are used to record behaviour. Observational studies may also provide a rich source of data comparing the knowledge of what the women knew theoretically about BSE in relation to what they actually did when performing Breast Self-Examination.

3. 2 RESEARCH DESIGN

A descriptive-observational design was used for this study. This design enabled the researcher to explore the knowledge and practices of women in Freetown regarding their breast health. The method used in this research was based on a survey carried out in Freetown, Sierra Leone during a 'breast week' in November 2002. In the 'breast week', information was provided on breast health to the women who participated, therefore a secondary analysis of the information obtained during this week was made in this study to determine its effectiveness. The issue of inadequate data on breast cancer both in terms of details and accuracy were previously highlighted in the problem statement. Data from this previous survey was sourced and served as a means of obtaining the sampling population for this study (refer 1.1 - p5).

A structured interview schedule containing two sections was administered to the respondents as a means of collecting data for the theoretical aspect of this study. The first section covered the socio-demographic information of the respondents, whilst the second section covered the theoretical knowledge base of the study.

Direct observation of the participants, using a checklist, addressed the practical aspect and skills acquisition. Respondents were observed performing Breast Self-Examination. This was to minimise possible bias in the event where the participant showed knowledge in the subject base.

The structured interview schedule and the observational checklist were expected to produce the following data sets for the informed women who were participating in the study:

- Prevalence, distribution and interrelationship between variables such as levels of education, age and knowledge in BSE;
- Assessment of theoretical and practical knowledge on breast cancer and Breast Self-Examination.

3. 3 POPULATION, SAMPLING AND SAMPLING SIZE

3.3.1 Population

The target population for this study was those women who attended the ‘breast week’. A total number of over 1 200 women participated in the ‘breast week’ held in November 2002 in Freetown, Sierra Leone.

3.3.2 Sample and Sampling Size

The sample was drawn from the population of women in the ‘breast week’. The criterion for inclusion in the study was limited to only those women who participated in the ‘breast week’ held in November in Freetown 2002.

- (i) The size of the sample was 120 women systematically selected from the population of over 1200 women who participated in the November 2002 breast cancer week. Every tenth woman on the registration list of women who took part in the 'breast week' was automatically selected as a participant for this study. Provision was made to include twenty more women as a contingency measure in case some of the women cannot be traced. Five of these women were selected for the pilot study and were not included in the final study.
- (ii) In the survey that was carried out during the 'breast week' by the researcher and nurse-midwives, a questionnaire was administered to the women for information such as demography, obstetric history, and surgical history amongst other relevant questions in relation to their knowledge on the issue of breast cancer prior to their exposure on the skills on Breast Self-Examination. The women during the breast week were also informed that the general information included in the questionnaire would be used for future follow up projects and contacts to which they consented. The women of the breast week were taught how to do Breast Self-Examination and they were asked to perform a repeat demonstration afterwards. This was to facilitate and assess the effectiveness of awareness raising and the usefulness of the practical demonstration.
- (iii) A probability random sampling method was used to systematically select the targeted sample from the register containing the names and addresses of the women in the breast week. The researcher selected every tenth name from the register of over 1 200 women giving a total of 120 women. The systematic selection of 120 women was to maintain a fair selection of the subjects and to ensure that they formed a representative sample of the population who participated in the breast week.

3.4 DATA COLLECTION

3.4.1 Research Instruments

According to Bless & Higson-Smith (1995), there are many different ways of carrying out assessments. The instruments used will largely depend on what is being assessed (Bless & Higson-Smith, 1995). In line with this view, two forms of instruments were used to collect data in order to appropriately assess knowledge and skills of breast cancer and breast self-examination. Choice of the two instruments enabled the researcher to arrive at comprehensive data, linking theory and practice and to achieve the stated objectives of the study. The research instruments were as follows:

- (1) A structured interview schedule using coded questions divided into two sections in the form of closed and open-ended questions was used (Appendix A).
- (2) Direct observation techniques, which involved direct observation of the participants' skills in performing BSE. This was in the form of a checklist developed by the researcher (Appendix A).

The added advantages of using a structured interview schedule for the purpose of this study included the large group of respondents to whom the interview was administered in order to produce a fair assessment (Polit et al, 1997). Based on the purpose of the study; all respondents faced the same questioning under similar conditions. Bless & Higson-Smith (1995) state that a scheduled structured interview is one of the most structured ways of getting information directly from respondents. Misunderstandings and misinterpretations of questions can be clarified on the spot, as the researcher's presence is inevitable in structured interviews. It further helps one to determine the frequency of certain answers and relationships between them (Bless & Higson-Smith, 1995).

However, there are disadvantages: (i) one cannot probe beyond the responses, in order to get a more favourable response to questions that demand yes and no answers; but provision was made such as: if no, give reasons, if yes: give reasons, or open-ended questions demanding clarification to the answer thus allowed further probing; (ii) it was time consuming considering the sample size and two-way approach to the study i.e., a theoretical and practical component. Bless & Higson-Smith (1995) question the use of untrained researchers to do the interviewing as there is the risk of disparities arising in the results and this will reduce their compatibility. To avoid this problem, the researcher, who is a nurse-midwife tutor, involved in the teaching of breast health, administered the instruments herself because the nature of the study required expert knowledge in the two phases of the study. This however required time on the part of the researcher to successfully collect the respective data needed, as each participant was interviewed separately.

3.4.1.1 A Structured Interview Schedule

A structured interview schedule containing coded items in the form of closed and open-ended questions was administered to the 120 women. The first section of the interview schedule focused on data such as demography, menstrual history, social habits, breast feeding patterns, and gynaecological and obstetrical history as were relevant in the study. The second section of the interview schedule contained questions focusing on the theoretical knowledge base of breast cancer, its causes, treatment and early detection methods. This section adequately addressed objective one (1) of the study, which was to determine whether the information given to the women regarding breast cancer and Breast Self-Examination during the breast week was fully understood (see Appendix A).

3.4.1.2 Direct Observation Technique (The Checklist)

This part of the study involved direct observation of the participants by the researcher when performing BSE. It contained questions in the form of a checklist demanding yes and no responses in relation to performance of the tasks or activity set out. Bless & Higson-Smith (1995) emphasize the fact that an observation must be planned systematically, with the researcher specifying what to observe. This part of the instrument appropriately addressed the practical aspect of the study in an attempt to achieve objectives one, two and three of the study, which aimed at identifying application of knowledge on BSE in using information transfer and skills performance into a practical sense. It dealt with skills application guided by the checklist, for the purpose of assessing a practical demonstration of Breast Self-Examination by the participants in the study. The cognitive, psychomotor and affective domains of learning in relation to specified tasks in the checklist were analyzed in a systematic, objective and standardized way (Appendix A).

3.4.2 Data Collection Process

The data was collected over a period of four weeks. The participants for this study were contacted through a list containing their names and contact addresses. For ease, the researcher divided the participants into zone lists according to close proximity after the selection process. Twenty student midwives living within these areas volunteered to trace the targeted sample. Two weeks were used for tracing the women in their respective areas. The students were provided with refreshments during the tracing period of the study. The purpose of the study was explained to the selected participants. On their kind approval and willingness to participate in the study, they were invited to come on agreed and specified dates as set out by the researcher. If the date and time was not suitable for the participant, then the appointment was rescheduled for her convenience.

The two sections of the interview schedule and the checklist were administered on the same day to the individual respondents. After completing sections one and two on the interview schedule, each participant then proceeded to the examination room alone where she was asked to perform Breast Self-Examination under the direct observation of the researcher. This was an important aspect of the study in fulfilling the practical component of the research. Privacy of the participants was crucial in this regard. The participants examined their breasts in a conducive and private atmosphere and the researcher used the practical room at the National School of Midwifery for this purpose.

In order to get quality output performance, the researcher divided the sample size of 120 women into groups of fifteen. Fifteen women were scheduled for data collection each day of the week excluding weekends. On successful completion of the items on the interview schedule, participants who had gone through the procedures of the study were asked not to disclose the contents of the interview to the other participants. In order to avoid this, the twenty student midwives who were involved in tracking the participants directed the flow of the women in and out of the room used for the study. Those who had completed the interview and demonstration of Breast Self-Examination left for their homes after a courteous thank you and hand out of a pamphlet on BSE and a pink ribbon by the researcher.

3.5 DATA ANALYSIS

A quantitative approach was used in analysing the data. Data were analyzed and presented using SPSS 11.5 and Microsoft Excel. Open-ended questions were analysed by grouping, in order of similarity, views expressed. Appropriate coding was allocated to the various groupings. Where appropriate the following statistical tests were applied:

- (i) Chi-square test of association to establish the relation between binary and categorical variables.
- (ii) Student T test to assess whether or not means of variables from sub-samples were significantly different.
- (iii) Simple regression models to show the strength of the relationship between variables.

The data were presented using pie charts, bar graphs, histograms and tables for easy interpretation and meaningful summaries of data.

3.6 VALIDITY AND RELIABILITY

Validity and reliability are two elements that are vital in any research. The contents of the structured interview schedule were based on the knowledge and skills of women previously exposed to information of breast cancer and the procedure of performing Breast Self-Examination. This is important to the nature of the study as participants were not asked what they are not expected to know. The various domains of learning, that is, the cognitive, affective, and psychomotor domains were observed thus content validity was addressed. It was also useful to test whether or not the women understood what they were told and could demonstrate so in practice. This was to ensure that the instrument used in the data collection measured exactly what it intended measuring and errors in judgement were minimized. The administration of a structured interview schedule ensured consistency in the questions asked and objectivity in the observations measured in the data collected, in that all the participants in the study were fairly assessed.

Interpretation of observations on the performance of tasks involving procedures, were subject to biases on the part of the observer. A systematic way of recording the observed activities or actions is paramount in any scientific study (Polit & Beck 2003). Therefore as a means of ensuring reliability and avoiding subjectivity, a checklist was used in the observation of the women's performances. This step taken ensured objectivity, fair assessment and also ensured possible replication of such a study using the same data collection tool.

3.6.1 Pilot Study

A pilot study is also another means of ensuring content validity and reliability of the instrument. The structures set up to achieve the objectives in the study as well as the methods chosen to achieve them are crucial in the successful implementation of a research study. Therefore a pilot study was done before the actual study started as a means of determining the reliability of the instrument. The pilot study was conducted a week before the study was carried out. This involved testing the actual instruments on a small sample taken from the sample population under study (Bless & Higson-Smith, 1995). Five women were selected from the targeted population for the pilot study; these women were not included in the main study.

During the pilot study, Items 25 and 32 tended to yield the same responses and therefore the interviewer was required to clarify and probe responses (see Appendix A). These questions were not changed for the main study, instead the interviewer was aware that clarification may be needed and gave this when it was necessary. The problem was identified and clarifications made on the respective items during the pilot study. This was rectified before and during the actual data collection phase of the research. Language barriers and the problem of English comprehension were overcome by appropriate interpretation and translation since English is

not the primary means of communication in Sierra Leone. The researcher undertook the translation herself. The first language used in Freetown is 'Krio' a form of Pigeon-English that includes some words directly stated as in the English language. The researcher is a Creole and therefore speaks Krio, which is her mother tongue, and English fluently; she could therefore translate the instrument in a clear manner to the understanding of the participants. When a participant could not speak nor understand Krio, the student midwives assisting in the study, who are from various tribal origins, were asked to do the translation.

3.7 ETHICAL CONSIDERATIONS

Permission to undertake this study was sought from the following:

- University of Natal, Ethics Committee (Appendix C).
- The Ethics Committee on Health in Freetown, Sierra Leone (Appendix D).
- The Consultant in-charge of the Princess Christian Maternity Hospital (PCMH).
- The Participants (Appendix B).

3.7.1 Informed Consent

Informed consent was sought from the participants to gain their approval for participation through a written letter. Participants in the study were not asked to provide details such as name and address for this follow up study as a means of ensuring anonymity and confidentiality. Data collected were only used for the purpose of the research study. Prior to the study, the participants gave their approval to be included in future projects and that they could be contacted through their various addresses. An atmosphere of good rapport had been established during the breast week, it was therefore anticipated that a favourable response would be emitted. However, participation in the research was on a voluntary basis. Participants were offered the opportunity to withdraw from the study and were assured of no

ill effects. None of the participants withdrew from the study. Given the nature of the practical aspect of the study, efforts were made to ensure privacy. For this purpose a special room was provided to facilitate the process. The practical room at the National School of Midwifery was utilised.

The Director General of Medical Services, who is also a member of the Ethics Committee on Health in Sierra Leone, was informed accordingly in a formal letter addressed to him seeking permission and approval to conduct the study. The Consultant Surgeon and team were informed of the study prior to data collection, for referrals in the event that a participant had signs of breast abnormalities or cancer. However, the final decision on the choice of doctor was left with the participants. Those requesting professional guidance in the matter were assisted. Appropriate counselling, referrals and follow up were done in such instances.

The researcher did not provide financial assistance for participants. The site for the study was accessible and within the easy reach of the participants. For the majority of the participants no expenses were incurred in travelling to the study site. For the few participants who could not access the study site, the researcher undertook the interview at a venue convenient for the participant. Participants requiring treatment were expected to cover the cost of treatment themselves. On the other hand, as a token of appreciation, a pamphlet showing demonstration of Breast Self-Examination (Appendix E) and a pink ribbon were distributed to the participants after data collection. This was to ensure positive reinforcement of behavioural changes and to support women for taking the initiative in participating in breast health awareness. A thank you note to the participants in the study was included in the interview schedule.

3.8 CONCLUSION

This chapter provided an overview of the research methodology, research design and the data collection process. The themes included in the structured interview schedule were based on literature on Breast Self-Examination and the key components of breast cancer pertinent to the study. The checklist was developed according to guidelines on literature regarding the procedure of examination of the breasts. Analysis of the data and discussion of the findings will be presented in the next chapter.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION OF FINDINGS AND INTERPRETATION OF RESULTS

4.1 INTRODUCTION

In this chapter, major components of the research findings are analysed and discussed. Use of the computer package SPSS 11.5 and Microsoft Excel facilitated analysis of data into numeric values to give meaning to findings in the study. The findings are presented in the form of tables, pie charts, histograms and bar graphs, followed by an explanation of the results.

One hundred and twenty women who participated during the breast week were interviewed. The findings will be presented in three sections. Section A will deal with the data on socio-demographic status of the respondents, Section B involves analysis and discussion of results of the theoretical components of breast cancer and Breast Self-Examination, and Section C focuses on the assessment of the respondents' abilities to perform a Breast Self-Examination. Descriptive statistics were applied to the socio-demographic data.

4.2 SECTION A - SOCIO-DEMOGRAPHIC DATA

4.2.1 Demographic Data

4.2.1.1 Age

Age has been identified as one of the risk factors in breast cancer and is therefore relevant to this study. As shown in Table 1, one hundred and twenty women participated in the study and their ages ranged between 18 and 50 years and above. Of the total sample of respondents, 47

women (39.2 %) were within the ages of 18-30 years old. Half of the women in the study fell within the age group 31-50 years. One respondent was below 18 years.

Table 1 – Age Distribution of Respondents (N = 120)

AGE (YEARS)	FREQUENCY	PERCENTAGE (%)
Below 18	1	0.8%
18 – 30	47	39.2 %
31 – 50	60	50.0 %
51+	12	10.0 %
Total	120	100.0 %

4.2.1.2 Marital Status

The majority of women, 93 (77.5 %), were married. A smaller percentage, 11 (9.2 %), of the sample population were single women. Seven of the respondents (5.8 %), who happened to be widows, fell within the ages of 50 years and above (see Table 2).

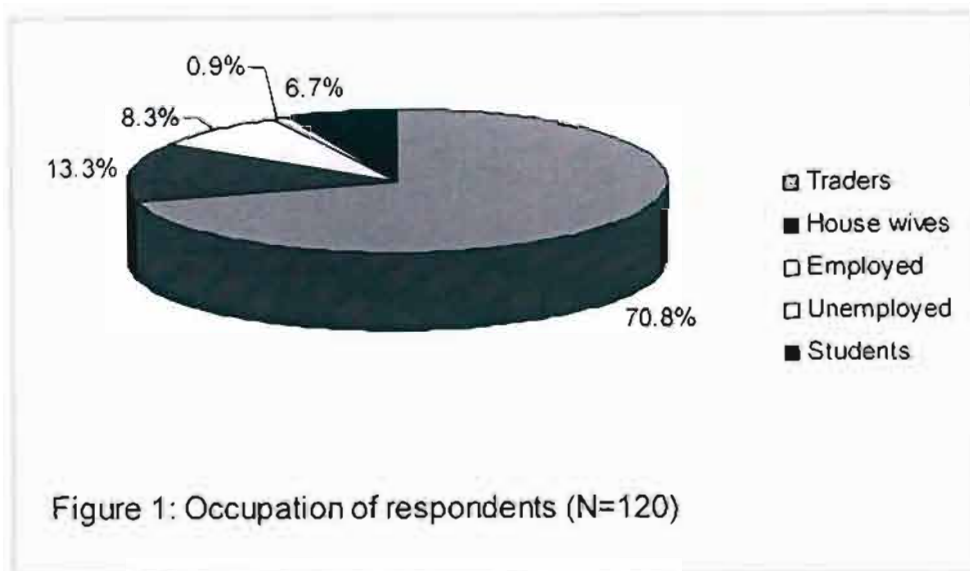
Table 2: Marital Status of Respondents (N = 120)

MARITAL STATUS	FREQUENCY	PERCENTAGE (%)
Single	11	9.2%
Married	93	77.5 %
Divorced	3	2.5 %
Widowed	7	5.8 %
Living With Partner	6	5.0 %
Total	120	100.0 %

4.2.1.3 Occupation

Figure 1 below represents the various occupations of the respondents. Of the 120 women interviewed, the majority, 85 (70.8 %), were traders who engaged in petty trading (small businesses) and big businesses. Sixteen (13.3 %) of the respondents were housewives and a

small proportion of respondents, 8 (6.7 %), were students. In the study population, 10 women (8.3 %) formed a relatively small percentage of those working within the formal sector. One woman (.9 %) however reported not “doing anything”, meaning she does not fit into any of the categories described under occupation. She was neither a student, nor a business women, or housewife. She was also not employed in a formal work setting.



4.2.1.4 Highest Level of Education Attained

Table 3 below gives a breakdown of the educational status of the respondents. Of 120 respondents, 61 (50.8 %) had no formal schooling. Of the 59 who had had schooling, 41 (34.2 %) had junior and secondary level education, with 14 (11.7 %) having completed senior secondary schooling. None of the respondents had post school education. The total number of respondents who had received some form of schooling (59) was almost the same as those who had never been to school (61).

Table 3: Level of Education (N = 120)

LEVEL OF EDUCATION	FREQUENCY	PERCENTAGE (%)
No Schooling	61	50.8
Primary School (Grade 1-7)	18	15
Junior Secondary School (Grade 8 -10)	27	22.5
Senior Secondary School (Grade 11-12 matric)	14	11.7
Total	120	100.0

4.2.1.5 Religion

Table 4 shows that a very large percentage of the respondents, 91 (75.8 %), were Moslems and only 29 (24.2%) belonged to the Christian faith.

Table 4: Religious Affiliation of Respondents (N = 120)

TYPE OF RELIGION	FREQUENCY	PERCENTAGE (%)
Christian	29	24.2
Muslim	91	75.8
Total	120	100.0

4.2.2 Social Habits and Life Style

4.2.2.1 Alcohol Drinking

The literature infers that smoking and alcohol are relevant risk factors in breast cancer (Keitel & Kopala 2000). Figures 2 and 3 provide a description of the results in relation to alcohol drinking, type and amount of alcohol consumed by the respondents. Of the 120 respondents interviewed, 101 (84.2 %) reported that they do not drink alcohol. The respondents who drank alcohol (19 = 15.8 %), differed in the amount of alcohol consumed per week and in the type

of alcohol consumed. Of the total number of women who drank alcohol, 10 of them occasionally drank 1 pint/can of alcohol per week, whereas 8 of them drank between 2-4 pints/cans of alcohol per week. One of them indicated that she drank over 5 pints/cans of alcohol per week.

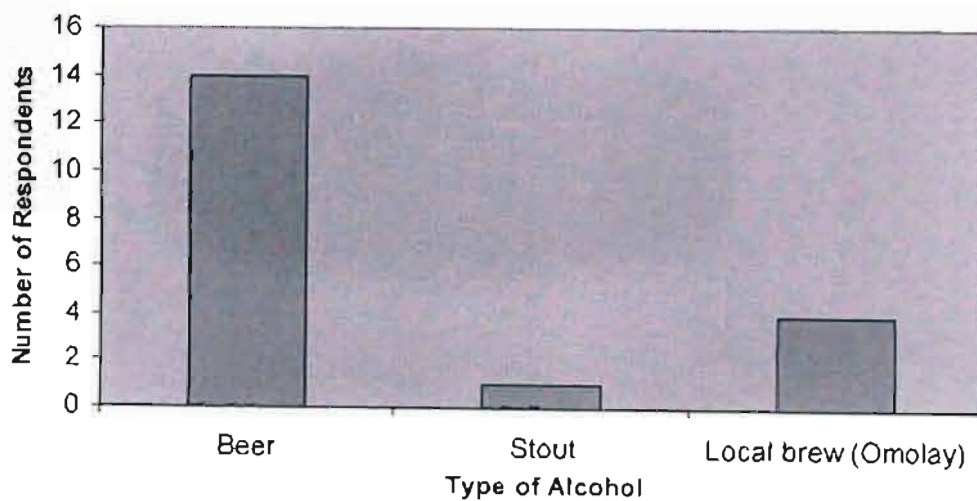
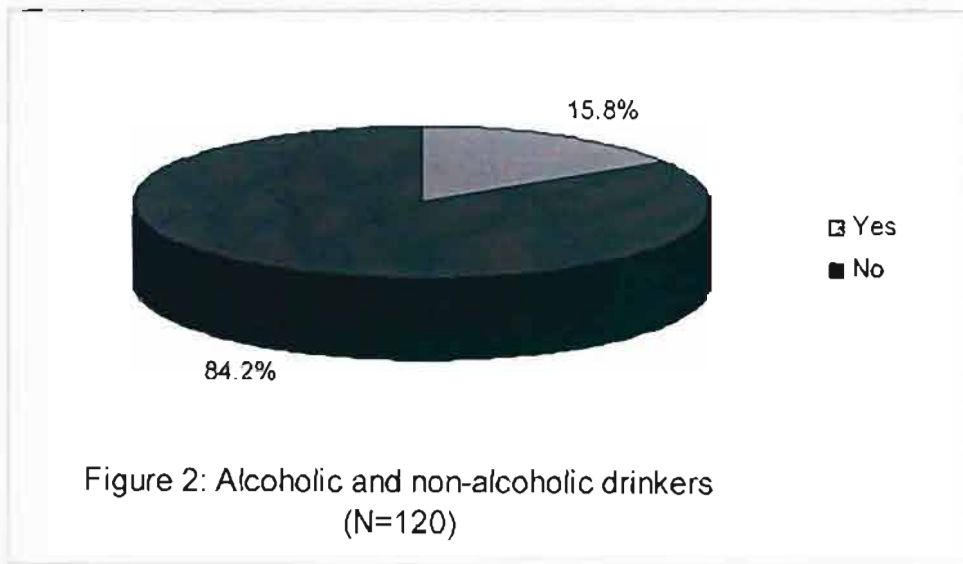
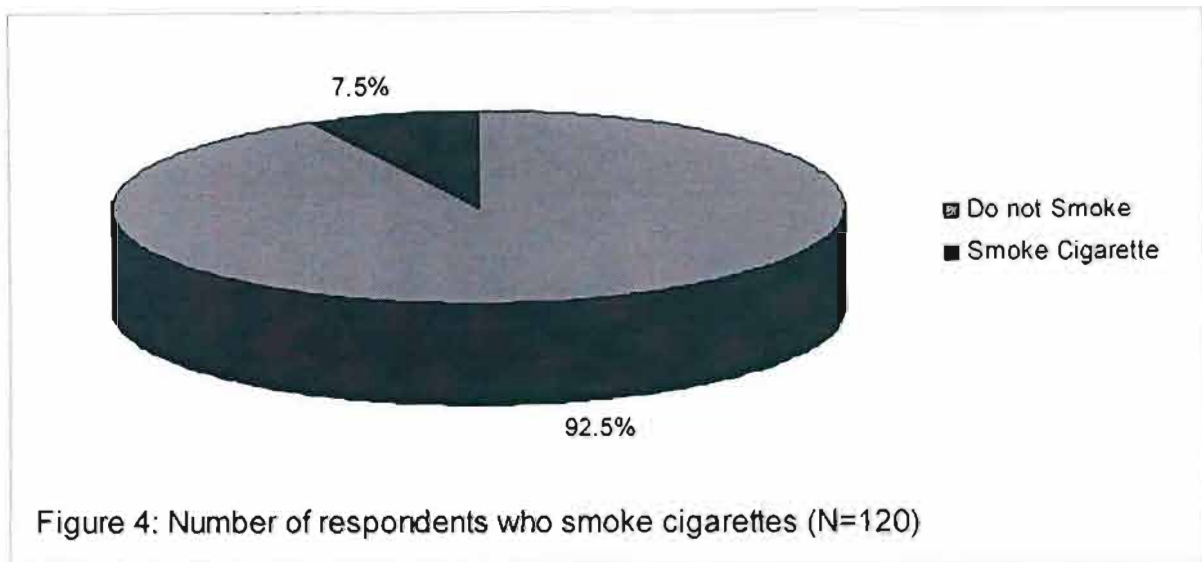


Figure 3: Type of alcohol consumed by respondents (N=19)

4.2.2.2 Cigarette Smoking

Of the 120 women who participated in the study, a larger proportion of women, 111 (92.5 %), responded that they did not smoke cigarettes (Fig 4). A relatively small proportion, 9 (7.5%), of the women however indicated that they did smoke cigarettes. These nine women smoked between 1 and 15 sticks per day.



4.2.2.3 Kola Nut Chewing

Forty six respondents chewed kola nuts (38.3%) and did so in varying amounts. The minimum amount chewed per day ranged from ½ - 1 kola nut (34 women) and 2 – 4 kola nuts per day by 12 women. The majority of the women (61.7%) did not partake in kola nut chewing.

4.2.3 Reproductive Health History

4.2.3.1 Age at Onset of Menarche

Age at onset of menarche has been used as one of the risk indicators for breast cancer (Keitel & Kopala, 2000). The greater percentage of the women, 102 (85 %), reported having their

first monthly period between the ages 12-15 years, eleven women (9.2 %) reported starting after the age of 15 years and 7 (5.8 %) reported experiencing their first menstrual period at age 9-11 years.

4.2.3.2 Age at First Baby

Table 5 shows the variations in the respondents' ages at having their first babies. The age group 18–25 years accounted for almost two-thirds (64.2 %) of the respondents who had had their babies during this period in their life. The analysis further shows that 29 (24.2 %) of the respondents had their babies at age 18 and below. In contrast four respondents had their first babies at age 34 years and above (3.3%) and another four women (3.3 %) had no children.

Table 5: Distribution of Respondents' Ages at Birth of First Baby (N =120)

AGE AT FIRST BABY	FREQUENCY	PERCENTAGE
Below 18 years	29	24.2
18 – 25 years	77	64.2
26 – 33 years	6	5.0
34 years and above	4	3.3
No babies	4	3.3
Total	120	100.0

4.2.3.3 Number of Children Delivered

The number of children delivered by the respondents (N=120) ranged from 0 to 8 children and more. Those who had 0-3 children constituted 36.7 % and those having delivered 4-7 children amounted to 47.5 %. A small group of respondents (N=19, 15.8 %) had delivered eight or more children.

4.2.3.4 Number of Children Alive

Just over half of the respondents, 61 (50.8 %), had 0-3 children alive, whilst 54 (45%) had 4-7 children alive. Only a small percentage (5 = 4.2 %) had eight or more children alive.

4.2.3.5 Breast Feeding Patterns

4.2.3.5.1 Practiced Breast Feeding/ Number Breast Fed

Of the 116 respondents who had children, all had breast fed. Furthermore, all of the respondents had breast fed all of their children, giving a 100% breast feeding response.

4.2.3.5.2 Duration of Breast Feeding

Data analysis revealed that most of the respondents' breast fed their babies for relatively long periods. Of the 116 respondents, the majority (69 %), breastfed their babies for 1-2 years. Another 31 % breast fed for more than 2 years.

4.2.3.6 Contraceptive History

4.2.3.6.1 Use of Contraceptive Method

Just under two-thirds of the respondents, 76 (63.3 %), indicated that they had never used contraceptives, whilst 44 (36.7 %) had used contraceptives. This finding supports the high parity reported in 4.4.3 above.

4.2.3.6.2 Current Use of Contraceptives

The majority of the respondents, 94 (78.3 %), indicated that they were not presently using a contraceptive as compared to 26 (21.7 %) who were currently using a contraceptive.

4.2.3.6.3 Type of Contraceptive Used

Of the 26 respondents currently using a contraceptive, 14 were using an injectable contraceptive. Only five reported using oral contraceptives and another five had had an IUCD inserted (see Table 6).

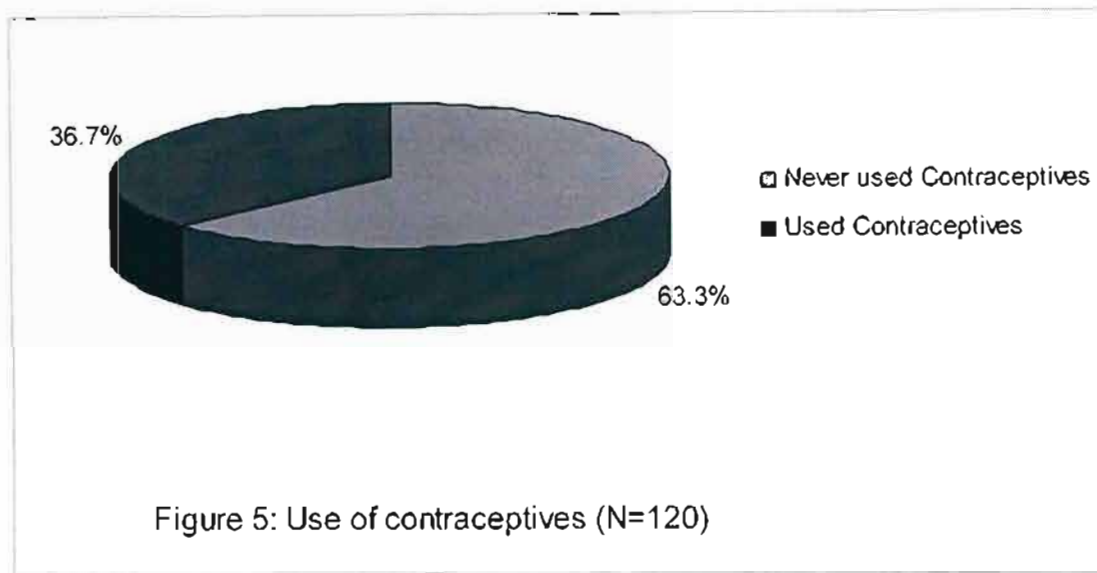


Table 6: Type of Contraceptives Used by Respondents (N = 26)

TYPE OF CONTRACEPTIVE USED	NUMBER OF RESPONDENTS
Injectables	14
Oral	5
IUCD	5
Barrier	1
Natural	1
Total Number of Respondents	26

4.2.4 Discussion of Socio-Demographic Findings

The general characteristics of the sample were indicated under the sub-headings of age, marital status, occupation, highest level of education and religion. As discussed in Chapters

One and Two, various socio-demographic indicators such as age, use of alcohol, smoking, high caffeine intake, early menarche, and parity are relevant in studies associated with breast cancer (Lipson & Steiger, 1996).

The majority of the women, 92 (77.5%), were married. The demographic profile of respondents indicated that almost half of the sample (61) did not obtain formal schooling. This is consistent with the statistics of the country which reflect a low level of educational attainment and a high level of illiteracy among the women (UNICEF, 1999). A high participation of the women involved in trading was evident in the analysis. An obvious explanation for this high turn out is that the P.C.M. Hospital is located within walking distance of the market. During the breast week the student midwives advertised the project in the market and surrounding areas.

4.2.4.1 Social Habits and Life Style

A high percentage of women in the study (92.5 %) did not smoke cigarettes. Smoking is not common among women in Sierra Leone. Thirty three women in the study chewed kola nuts as part of their social habits. The Kola nut is a habit forming nut with a high caffeine content and is used as a pastime by some people in Sierra Leone. Kola nuts are found in countries such as Sierra Leone, Liberia, Guinea, and Gambia and are renowned for their addictive properties. Kola nuts are used in making certain drinks such as coke. They are used in dye making, and are also used in traditional rites such as engagements or funeral ceremonies by certain tribes. Information, education and communication during the breast week were not directed at a change in social lifestyle, as the main emphasis was on breast cancer awareness and the performance of BSE for early detection and prompt reporting. It is however important to take

cognisance of these social aspects of life, especially in the promotion of women's health. programmes such as breast health.

4.2.4.2 Reproductive Health

Findings on data regarding the reproductive health of the respondents revealed that they had large families and those who had had babies, breastfed all of their children for relatively long periods. The majority of the respondents, (63.9 %), breastfed their babies for 1-2 years. These statistics support the fact that African mothers are known to practice breast feeding for longer periods as compared to women in industrialized countries (Smyke, 1993). The use of contraceptives was not widely practiced by the respondents. This supports statistics in relation to the reproductive lives of women in Africa as discussed in Chapter Two.

4.3 SECTION B: KNOWLEDGE OF BREAST CANCER AND BSE

4.3.1 Introduction

This section deals with the respondents' theoretical knowledge of breast cancer, its causes, detection, treatment and early detection. Results regarding theoretical knowledge on breast cancer and breast self-examination are presented in this section. The findings related to the effects and benefits of knowledge of BSE as reported by the respondents are also presented in this section. These results will be discussed within the context of events surrounding the breast week and its objectives.

4.3.2 Attendance at the Breast Week

Details of the breast week were described in Chapter One. All 120 respondents confirmed their attendance at the breast week.

4.3.3 Knowledge of Breast Cancer

In response to the open-ended question “What do you know about breast cancer”? a number of varied answers and responses were given. These responses were summarized and categories are listed in Table 7.

Seventy respondents out of the total sample (58.8 %) described breast cancer as a disease that affects the breasts and kills women if not treated or reported early. Fifty respondents, (42.0%) listed some of the signs and symptoms associated with breast cancer. Similarly, abnormal growth, enlargement, and skin changes were cited as indicators of breast cancer by 30 (10%) of the respondents. Abnormalities such as nipple discharges and hardening of the breasts were also cited by 12 (10%) of the respondents. A small percentage of respondents 4 (3.4%) indicated that they did not know what breast cancer was.

4.3.4 Causes of Breast Cancer

This was an open ended question, asking “What causes breast cancer”? The breakdown of varied responses on the causes of breast cancer is displayed in Table 8 as some of the respondents gave more than one response to the question. On analysis of data, 86 (71.7 %) of the respondents linked putting coins and other metals into one’s brassiere as one of the causes of breast cancer. On observation, the researcher sees this belief as one that is commonly shared by most women in the traditional communities in Sierra Leone.

Of the total sample, thirteen respondents (10.8 %) had no knowledge on what causes breast cancer. Results of the analysis further revealed that most of the responses given were related to traditional beliefs and myths. Lack of knowledge on the causes of breast cancer was evident in some of the respondents. Only six (5%) of the respondents stated that the causes of

breast cancer are unknown. The literature states that the exact causes of breast cancer remain unknown. Medical experts refer to the causes of breast cancer as “unknown” (Berger & Bostwick, 1994; Huffman, 2000; Watts, 1990). The women stating that the cause is unknown appear to be most knowledgeable.

Table 7: Respondents’ Knowledge of Breast Cancer (N = 120)

WHAT DO YOU KNOW ABOUT BREAST CANCER?	FREQUENCY OF RESPONSES	PERCENTAGE OF CASES
1. It is a bad disease that affects the breasts, it kills women if not detected early or treated on time	70	58.8
2. It is recurrent lumps, boils, ulcers or sores on the breasts that refuse to heal. A lump later resulting to sore in the breasts	50	42.0
3. It is abnormal growth on the breasts, enlargement of the breast causing swelling, itching, pain, skin changes and tenderness	30	15.0
4. Hardening of the breast, abscess, or pus or bloody discharge from the nipples	12	10.0
4. Surgery is done on the breasts and the lump or affected breast is removed, dangerous disease has no cure	8	6.7
5. No idea	4	3.4

NB. The numbers represented in categories 2 - 4 in Table 7 were not necessarily part of the original 70 women in category 1. The frequency of responses in the column above represents multiple answers given by the respondents consequently adding up to the total percentage of cases in column 3.

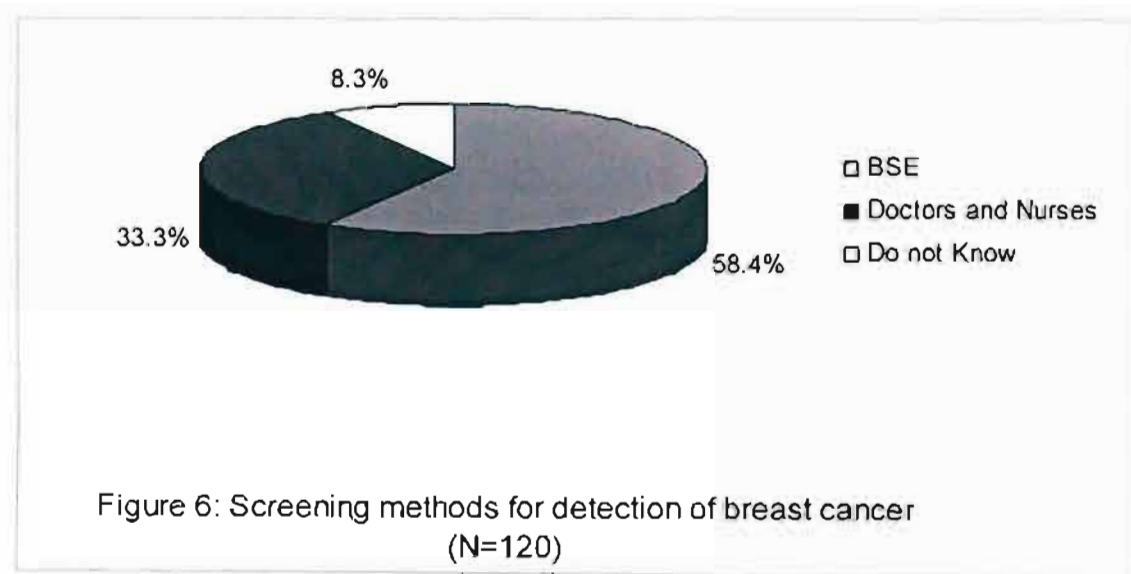
Table 8: Responses/Frequency on Causes of Breast Cancer (N = 120)

RESPONSES	FREQUENCY	(%)
Traditional Beliefs/Practices such as putting coins or Metal in one’s Brassiere	86	71.7
Bad Practices Around Breast Feeding/ Trauma to the Breasts	15	12.5
No Idea	13	10.8
Unknown Causes	6	5
Total	120	100.0

4.3.5 Screening Method for Early Detection of Breast Cancer

The highest number of respondents, 70 (58.4 %), considered Breast Self-Examination as one of the screening methods used in detecting breast cancer at its earliest stage. Another group of respondents, 40 (33.3 %), on the other hand felt that breast cancer can only be detected by professionals which included doctors and nurses described by them as experts. They indicated that on their own they would not be able to detect breast cancer, that expert opinion was needed.

A small proportion, 10 (8.3 %), were however unable to give examples of screening methods through which breast cancer can be detected early even though they were told about BSE during the breast week.



4.3.6 Sources of Information on Breast Self-Examination

Table 9 below provides a breakdown of the sources through which the respondents got to know about Breast Self-Examination. The study found that a little close to half of the sample 57 (47.5%) got to know about Breast Self-Examination during the breast week. Another group of women, 25 (20.8%), indicated they got this information from nurses. This could be

further explained as some of the respondents added that prior to the breast week the student midwives informed them about BSE. Radio talks on BSE during the breast week accounted for 15.8 % of the information source from which the respondents learnt about BSE. Sixteen women (13.3%) got the information on BSE from friends who had been to the breast week programme. The information they received was passed on to their friends.

Table 9: Sources of Information on BSE (N = 120)

SOURCES OF INFORMATION	FREQUENCY	PERCENTAGE (%)
Breast Week	57	47.5
Nurses	25	20.8
Doctor	2	1.7
Radio Talks	19	15.8
Friends	16	13.3
Reading Books	1	0.8
Total	120	100.0

4.3.7 Various Positions of Examining the Breasts

Over two-thirds of the respondents (N=83; 69.7%), knew about the lying down position used when performing BSE (see Table 10). One possible explanation for this might be the fact that the women had their breasts examined whilst lying down during the breast week. They were however taught or shown the other positions used for performing BSE such as standing and sitting down. Use of these positions were mentioned by 15 (12.5 %) and 4 (3.3 %) respondents respectively. Some of the respondents, 18 (15 %), named all three positions that can be used when performing BSE.

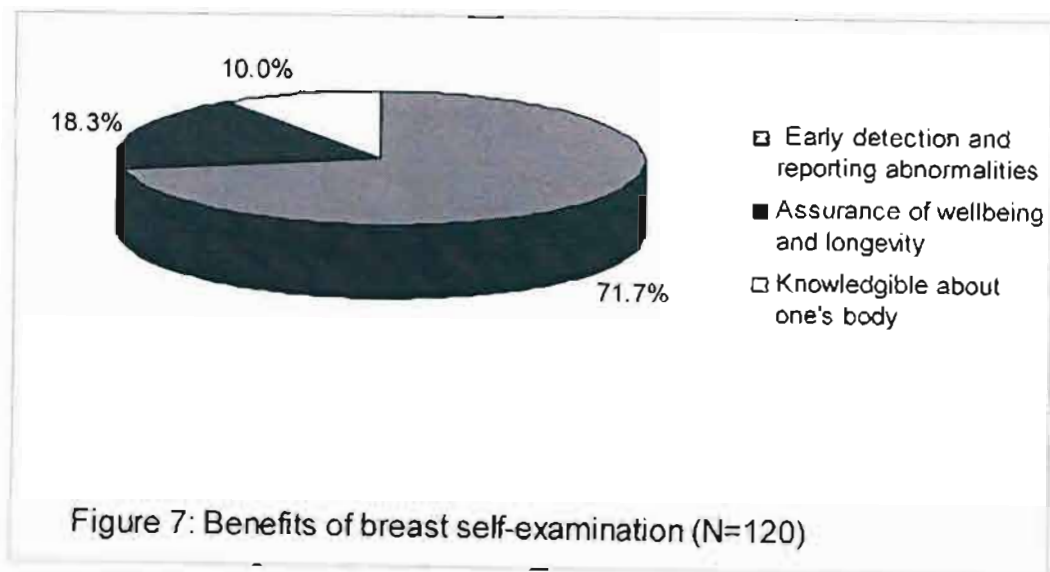
Table 10: Positions Used in Breast Self-Examination (N = 120)

POSITION USED FOR PERFORMING BSE	FREQUENCY	PERCENTAGE (%)
Lying Down	83	69.7
Standing	15	12.5
Sitting	4	3.3
All of the Above	18	15
Total	120	100.0

4.3.8 The Benefits of Breast Self-Examination

One of the main benefits of BSE according to the majority of the respondents, 86 (71.7%), was that they could now detect breast abnormalities early themselves and report to the hospital for differential diagnosis and appropriate management.

A small number of the respondents, 22 (18.3 %), felt that having knowledge on how to examine their breasts for abnormalities gave them the assurance of well-being and longevity as they now know about their breast health status. Being knowledgeable about one’s body was also cited as a benefit of Breast Self-Examination by 12 (10%) respondents (see Figure7).



4.3.9 Knowledge of Someone Who Had Suffered From Breast Lumps or Cancer

The majority (71=59.2%) said that they knew someone who had had a breast lump or who had suffered from breast cancer, whilst 49 (40.8 %) of the respondents had no knowledge of someone who had suffered from or who had had a breast lump or cancer (see Table 11).

Table 11: Women Suffering from Breast Lump/Cancer Known by Respondents (N = 120)

SUFFERERS	FREQUENCY	PERCENTAGE
Yes	71	59.2
No	49	40.8
Total	120	100.0

4.3.9.1 Outcome for Person with Breast Lump/Cancer

Of the 71 respondents who knew someone who had breast lumps or breast cancer, 25 (35.2 %) said that these women had had the lumps removed. Those requiring surgery to remove the affected breast fell within this group as well. Over half of these women, 46 (64.8 %), said that the person who they knew was suffering from breast cancer had died either before or after surgery (Table 12).

Table 12: Outcome of Persons Known by Respondents (N = 71)

OUTCOME	FREQUENCY	PERCENT
Had Lumps Removed	25	35.2
Died	46	64.8
Total	71	100.0

4.3.10 Had Breast Problems before the Breast Week

Of the 120 respondents, the majority, 94 (78.3 %) indicated that they had had problems with their breasts before the breast week. The range of these problems included painful breasts, itching, breast abscess, sore nipples, breast engorgement, and heaviness (see Table 13).

A relatively small proportion, 26 (21.7%) said that they had never experienced breast problems prior to the breast week. All the women (N=94) who had problems with their breasts before the breast week, reported that they had detected these problems on their own giving a 100 % response.

Table 13: Problems with Breast before Breast Week (N = 120)

BREAST PROBLEM	FREQUENCY	PERCENTAGE (%)
No	26	21.7
Yes	94	78.3
Total	120	100.0
TYPE OF PROBLEM	FREQUENCY	PERCENTAGE (%)
Painful Breasts	41	43.6
Itching of the Breasts	10	10.6
Nipple Discharge	6	6.4
Breast Abscess	10	10.6
Sore Nipples	6	6.4
Breast Engorgement	6	6.4
Heaviness of the Breasts	15	16.0
Total	94	100.0

4.3.11 Additional Teachings on BSE/Sources

Although most of the women, 97 (80.8 %), said that they had never received any teachings on how to examine their breasts apart from the teachings during the breast week, a few of them, 23 (19.2 %), however mentioned that they did receive additional education on breast checks. This was done on visits to the antenatal clinic (8.7%). The information was not specifically geared towards screening for breast cancer, but rather on preparation of the breasts prior to breast feeding their babies (see Table 14).

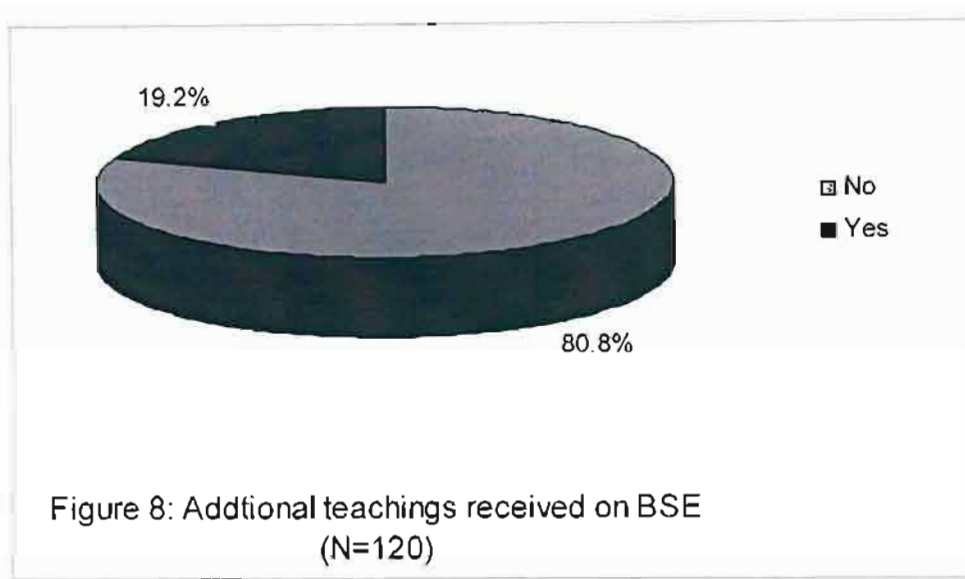


Table 14: Sources of Additional Teachings Received on BSE (N = 23)

SOURCE OF ADDITIONAL TEACHINGS RECEIVED ON BREAST SELF-EXAMINATION	NUMBER OF RESPONDENTS	PERCENTAGE (%)
1. Doctors/Nurses	14	60.9 %
2. Family Planning Clinic	4	17.4 %
3. Antenatal Clinic	2	8.7 %
4. Radio Talks	3	13.0 %
Total	23	100.0 %

4.3.12 Effects of Knowledge of BSE on Lifestyle

With reference to the question on what they are doing differently since the breast week, the majority of the women, 99 (82.5 %), said that they are performing Breast Self-Examination and are aware of the need to check their breasts regularly for abnormalities. Dissemination of the information on Breast Self-Examination to other women was reported by 16 (13.3 %) of the respondents, as one of the things they are now involved in after the breast week.

A small percentage of the respondents, five (4.2 %), reported that they have now stopped putting coins in their brassiere as was previously done before the breast week. This action refers to a subgroup of the 86 women who had stated that breast cancer is caused by putting coins in the brassiere (see Table 8).

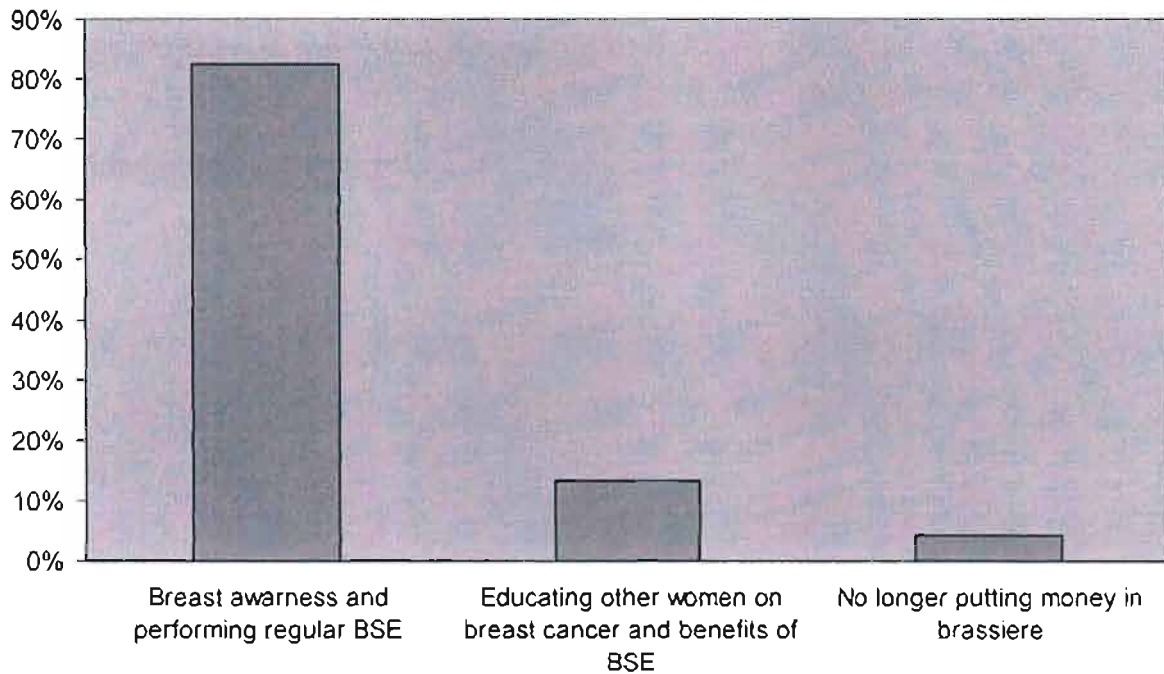


Figure 9: The Effect of Knowledge of BSE on Lifestyle (N=120)

4.3.13 Performance of Breast Check before Breast Week

With regards to whether the respondents had been performing Breast Self-Examination before the breast week, out of the total sample of 120, the majority of the respondents 110 (91.7 %), said that they had never practiced Breast Self-Examination prior to the breast week. In contrast, a small number of respondents, 10 (8.3 %), indicated that they had been performing Breast Self-Examination before the breast week.

Table 15: Performance of BSE before Breast week (N = 120)

Performing BSE before Breast Week	Frequency	Percent
Yes	10	8.3
No	110	91.7
Total	120	100.0

4.3.13.1 Frequency and Times BSE is Performed after Breast Week

In relation to how often the respondents performed Breast Self-Examination, 39 (32.5 %) of the respondents indicated that they examined their breasts once a month, the same number of women said they examined their breasts sometimes. Only six, (5 %), stated that they had not performed Breast Self-Examination since the breast week despite the information provided on the importance of regular performance of BSE.

With regards to the time of performing BSE, multiple responses were given by the respondents as shown in Table 16. Thirty nine women indicated that they examined their breasts after their monthly period. Whilst, four (3.5%) women stated that they performed breast checks whenever they felt something was wrong. The majority of the respondents, 70 (68.3%), stated that they examined their breasts when having a bath. This finding is borne out in the literature by Watt (1993) who reiterated that most women perform BSE whilst bathing or taking a shower.

Table 16: Periods and Times at Which BSE is Performed after Breast Week (N = 120)

PERIOD BSE IS PERFORMED AFTER BREAST WEEK	FREQUENCY	PERCENTAGE (%)
Once every month	39	32.5
Everyday	19	15.8
Sometimes	39	32.5
Anytime-No Specific Period	17	14.2
Not at all	6	5
Total	120	100.0
TIME OF PERFORMING BSE	FREQUENCY	PERCENTAGE (%)
Monthly periods	39	34.2
When something is wrong	4	3.5
Any time I feel like it	3	2.6
When bathing	70	61.4
Same time of the month	4	3.5
Total	-	100.0

NB: Multiple responses were given for the time during which the respondents performed BSE. Total number of respondents performing BSE after the breast week was 114.

4.3.14 Reasons for Performing Breast Examination

Health promoting practices or activities that require participation of the respondent can be assessed in terms of the rationale behind such actions. On the basis of this, the respondents were asked to give reasons as to why they examined their breasts. The responses to this question are shown in Table 17. Analysis of the responses given by the 120 respondents yielded four categories. The predominant reason given by 99 respondents (82.5 %), was that they were told by the nurses during the breast week to perform BSE regularly in order to detect abnormalities early. Thirteen (10.8 %), respondents stated that they knew someone who had died from breast cancer and this had made them afraid of the disease. Their reason for examining their breasts therefore was based on the knowledge that breast cancer kills.

Other reasons given by the remaining respondents for examining their breasts included reasons such as: six said it is part of my routine (5 %), indicating that these women have assumed the responsibility of self-care. Only two, (1.7 %), of the respondents, gave as their reasons for examining their breasts the fact that they had had breast lumps detected.

Table 17: Reasons for Performing Breast Self-Examination (N = 120)

REASONS FOR EXAMINATION OF BREASTS	FREQUENCY	PERCENTAGE (%)
I know someone who died of breast cancer so I am afraid and want to find out if there is anything wrong	13	10.8 %
It is part of my routine check up	6	5 %
I was told by the nurses during the breast week that it should be done regularly by all women to detect abnormalities of the breasts	99	82.5 %
I had lumps before so I need to check my breasts	2	1.7 %
Total	120	100.0

4.3.15 Any Abnormalities Detected during the Breast Week

When asked whether any problem was detected with their breasts during the breast week, the majority, 117 (97.5 %), gave a negative response. They were declared free from breast diseases at that period of time and the emphasis was for them to continue practicing BSE.

The remaining three (2.5%) respondents replied in the positive when the same question was asked and further explained what the detected problem was. Of the three, two of the respondents indicated that their reasons for examining their breasts, was due to the fact that they had had breast lumps detected during the breast week (see Table 17).

4.3.15.1 Site/Type of Breast Problem

As already indicated, three respondents reported that they had problems with their breasts which were detected during the breast week. Of these three, two of them said that breast lumps were detected in their right breasts in different sites. The third respondent had problems of abnormal breast tissue of the left breast and enlarged axillary lymph nodes on the left as well.

4.3.15.2 Action Taken After Detection

The three respondents said they reported to the breast surgeon with the referral note indicating the problem detected as was advised by the researcher during the breast week. On consultation, a review was done by the breast surgeon for these women individually. One of them had the lump removed and was put on medications, whereas the respondent with the abnormal skin changes of the breast reported that she had had a mastectomy and was put on treatment as well. The other respondent, having a breast lump on the right lower outer quadrant of the breast, indicated that after reporting the abnormality to the doctor she was told to have surgery to remove the lump. She however did not have the surgery done. The reason given was that she has no money to pay for the surgery and that she is presently saving towards the surgery.

4.3.16 Hospital Intervention after Detection of Breast Abnormalities

An understanding of the options and treatment available for breast cancer is a relevant aspect of knowledge on breast cancer. To determine whether the information given on treatment of breast lumps or cancer was understood by the respondents, they were asked to indicate what can be done on detection of abnormalities in hospital. In response to this question, 87 (72.5%), of the respondents stated that the lump or affected breast will be removed through

surgery. Another group of respondents, 30 (25 %), indicated that treatment will be given according to the doctor's findings. Three of the respondents, (2.5 %), however said that they were not sure of what could be done in hospital for the abnormalities that were detected.

4.3.17 Knowledge of Other Screening Methods for Breast Cancer/Abnormalities

The absence of modern medical facilities for diagnostic screening in Sierra Leone has been discussed as one of the constraints earlier in the problem statement. This was evident in the responses given by the respondents in relation to the type of screening methods they knew.

Of the 120 respondents, the majority, (111, 92.5 %), indicated that apart from Breast Self-Examination, they did not know of any other method of screening the breasts for cancer. However, nine of the respondents (7.5 %) demonstrated knowledge of other screening methods for breast cancer. When asked to explain the screening method they knew, these respondents described the screening method as a “machine” which the doctor will request for screening. According to the respondents, the machine will see everything that is wrong and will confirm the diagnosis of breast cancer. Mention was not made of the name “mammogram”.

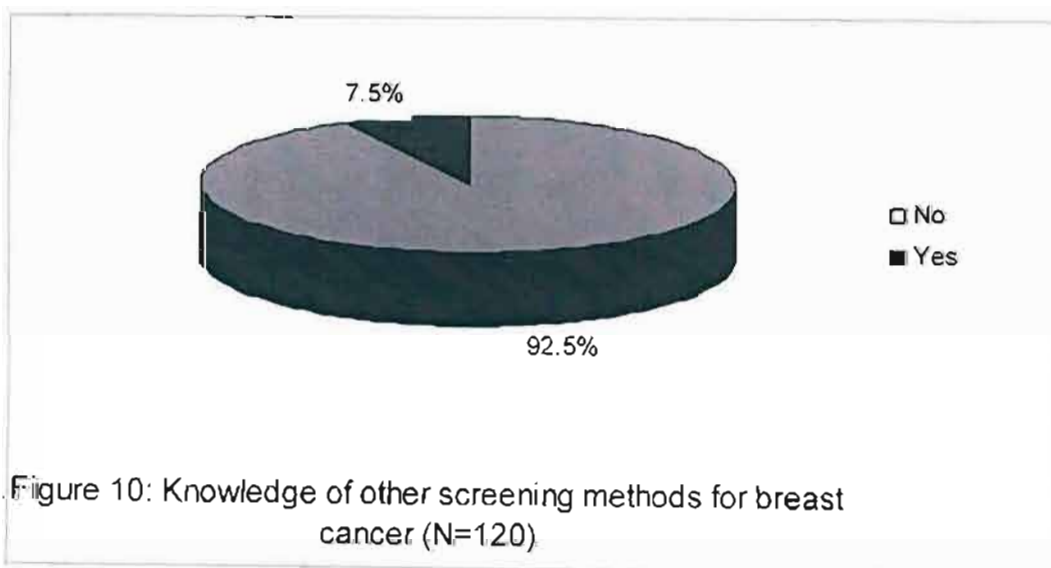


Figure 10: Knowledge of other screening methods for breast cancer (N=120)

4.3.17.1 Use of Other Screening Methods Known By the Women

The lack of modern facilities such as a mammogram made it difficult for the women to indicate in their responses options from which they could choose regarding the various methods of breast examination. All the respondents said that they have never had the opportunity of advanced screening methods for breast cancer.

4.3.17.2 Preference of Screening Method

The nine women who made mention of the “machine as a screening method”, indicated their preference for this method because the “machine is better and will give a better picture of the disease by detecting everything”. The majority of the respondents (111, 92.5 %) indicated their preference by saying that they do know the other methods, but need the one that will best diagnose the disease.

4.3.18 Discussion of Knowledge on Breast Cancer and BSE

On analysis of data, it appeared that the majority of the women had a good knowledge of what breast cancer is, as they ably described the disease in terms of signs and symptoms associated with the disease. Considering the fact that nearly half of the respondents had no formal schooling, the overall response indicated that the majority of the women had an adequate knowledge of breast cancer and could identify abnormalities of the breast. This indicated that the women were aware of the serious nature of the disease. Respondents recognized signs as abnormal and linked the disease to the signs and symptoms associated with it. There was however a small number who mentioned that they did not know what breast cancer is. It is possible that they felt that they could not accurately describe the disease based on their level of understanding of the disease.

With regards to the question on method of early detection of breast cancer, the majority, (58.4 %) of the women considered Breast Self-Examination as one of the screening methods for breast cancer. On the other hand, 40 (33.3%) of the respondents stated that breast cancer can be detected by experts through palpation and examination of the breasts, but they did not link this to Breast Self-Examination. A small percentage of the respondents, 10 (8.3%), said they did not know of screening methods that can be used in early detection of breast cancer.

The health education information provided during the breast week emphasized key points: what is breast cancer, what to look for during examination of the breasts, how to examine the breasts for abnormalities, and what to do on detection of such abnormalities. Prompt reporting to the hospital for expert opinion and treatment formed part of the information given. Women were encouraged to include Breast Self-Examination as part of their routine self-care. On analysis of data, most of the women referred to the information provided during the breast week as being the prime reason for them examining their breasts. The Cancer Association of South Africa (2000) states that that nine out of ten lumps are detected by women during BSE. The need for women to continually examine their breasts, to exclude abnormalities, is imperative especially in a country where there are no other options for screening. Thus the information provided during the breast week, succeeded in providing a motivation for them to change their lifestyle with regards to having a breast check.

The majority of the women (71.7 %) cited early detection of breast abnormalities, such as breast cancer, as the key benefit of BSE. In addition to this, some of the respondents admitted that performing BSE gives them a sense of wellness especially when nothing abnormal was found during the breast check. Early detection was their key to survival and therefore cited as a benefit of performing BSE. The results on the benefits of BSE have implications for

nursing/midwifery practice as BSE was considered as beneficial to women's health. The integration of topics such as BSE into nursing and midwifery curricula could empower nurses during health talks on general care of the breasts.

Acceptance of the fact that identification of abnormalities in the breasts should be followed up, some of the women mentioned that they will seek professional advice for confirmation of the diagnosis. This is a positive response and move which in itself will discourage the use of traditional remedies which worsens the condition or causes women to report at a stage when little can be done. The appropriate referral system was emphasized.

Their actions were based on the teachings received during the breast week, on prompt reporting of any abnormalities detected. However, despite the early report made by the women, one of them was constrained by financial difficulties. This finding can possibly explain some of the reasons why some women seek help very late when abnormalities are detected. Within this context, the relationship between the high cost of health care services and women seeking prompt medical treatment can further be explored. Primary Health Care aims at providing health care that is available, affordable, accessible as well as acceptable. The effectiveness of health education on breast cancer and BSE in terms of utilization of the appropriate medical facilities for treatment can be hampered by the high cost of medical services and treatment. This can have an effect on the objectives of the program, what it seeks to achieve or its intended outcomes.

Understandably, BSE involves inspecting, palpating and examining the breasts for abnormalities. The benefit of this practice according to the respondents means empowerment in taking control of their bodies. The effectiveness of this knowledge therefore is that of

knowing the normal from the abnormal. Performing BSE is seen by them as a way of participating in the prevention of disease which in return promotes their health status. One of the objectives of the breast week was to provide knowledge that will enhance the women's ability to participate more effectively in their breast care as well as the ability to report promptly, abnormalities detected. Self-Care according to the theoretical foundation of this study (Orem, 1980), is promoted by involving the individual in participating in their daily health activities.

Utilization of the information given during the breast week by the respondent was made based on key indicators. This was determined by the number of women who examined their breasts before and after the breast week. A comparison of how many women examined their breasts before the breast week and after the breast week was assessed respectively. On analysis of findings, a high percentage of women (91.7 % =110), reported that they had never done BSE prior to receiving information and skills on Breast Self-Examination. In contrast, the percentage of women who performed Breast Self-Examination after the breast week was higher (95 % =114). This change in behavior was significantly different with $p = 0.000$ (see 4.4.7).

Based on these facts, it can be concluded that the information given during the breast week was utilized by the majority of the women. However, it is important to note that a few women (6=5%) did not practice BSE when they were declared free from abnormalities of the breasts during the breast week. One possible explanation could be that these women misinterpreted the information as a good indicator of the breast status, thus they did not see the need for future checks. Another possible explanation for this misinterpretation could be the

respondents' level of education. As was previously discussed, 50.8 % of the respondents had had no formal schooling.

4.4 SECTION C: OBSERVATION OF THE PERFORMANCE OF BREAST SELF-EXAMINATION - PRACTICAL COMPONENT

4.4.1 Introduction

The major objective of this section of the study was to find out whether the respondents could perform BSE as taught during the breast week. As already indicated, the 120 respondents in this study were observed while performing BSE. A checklist was used to assess their performance of BSE. Each step was evaluated on the basis of a simple “yes” or “no” response.

4.4.2 Observation of Respondents Inspecting Their Breast (N=120)

One hundred and ten of the respondents at the start of the examination mentioned that they would first take a look at the breast to inspect the shape and skin tissue for abnormalities. Ten of the respondents did not make mention of the first step of inspecting the breasts.

4.4.3 Palpation of the Breast Tissue

Ninety of the respondents, (75 %), started palpating their breasts from the axillary portion of the breast to examine for any lumps; the remaining 30 respondents (25 %) were observed to start palpating their breast from the center. In relation to palpating the breast tissue, the majority of the respondents, (115, 95.8 %), palpated their breasts in a circular manner to check for breast lumps or any other abnormality. Only five of the respondents, (4.2 %), were observed to start the palpation in quadrants, which is a division of four sections. Furthermore 106 (88.3 %), of the respondents used the pads of the fingers to check the breast tissue, whilst

14 of the respondents (11.7 %) did not use the pads of their fingers, but instead used their finger tips. With this type of practice, abnormalities situated deep within the breast tissue are difficult to palpate.

With the exception of one respondent, all examined the second breast in the same manner. One respondent had had a mastectomy done. She however mentioned that she still examines the scar area for any further changes that may be abnormal.

4.4.4 Examination of the Nipples

Almost all (110; 91.7%) of the respondents, on completion of palpating the breast tissue, squeezed their nipples to detect abnormalities such as a bloody nipple discharge or offensive pus-like discharge which are also associated with cancer of the breast. Very few women (10) did not examine the nipples for abnormalities. Omission of any area can lead to missed abnormalities. Hence it is important that the whole breast and surrounding areas are properly examined.

4.4.5 Detection of Abnormalities during Demonstration of BSE

Only one of the respondents had reported palpating a lump in her right breast during the demonstration. The researcher confirmed this, by palpating the breast herself. Further analysis revealed that this woman had had the lump detected during the breast week and had been referred to the surgeon, who she had seen. He had recommended surgery, but she had not been able to afford this. The woman was counselled on the importance of the need for prompt action. Financial constraints can be an inhibiting factor for women with breast problems and who need surgery.

4.4.6 DISCUSSION OF FINDINGS OF DEMONSTRATION

On observation, the majority (91.7 %) of the women were able to examine their breasts for abnormalities. They also mentioned early detection and reporting of breast abnormalities to the hospital for medical interventions, as one of the benefits of performing Breast Self-Examination. Two categories of women were identified during the study, those who mastered the skills and those who did not master the skills of examining their breasts using key points. Those who did not master the skills of BSE were shown the correct procedure to follow (N=10). However, failure of a woman to examine the axillary portion of the breasts as part of the breast during BSE might result in her missing enlarged lymph nodes or abnormalities in this area. Appendix E and F, gives a general picture of patterns used in BSE performance by the respondents. Whilst differences in technique used were noted, the main objective was to find out whether they could examine their breasts using any of the methods as described in Chapter Two. The focus of BSE is however based on mastering the skills, whichever pattern the woman adopts. The end result is checking of both breasts in order to exclude abnormalities.

4.4.7 Statistical Analysis

When non-parametric tests were applied to the data, the only variable which was of significance was the performance of BSE before and after the breast week. There was a significant increase in the distribution before and after the breast week as a result of the interventions during the breast week after the health education received on Breast Self-Examination. Thus the Chi-Square test in distribution is statistically significant ($\chi^2 = 1185.14$, $df=1$, $p < 0.05$ $p = 0.000$). When statistical tests were applied to variables such as age and level of education, the data did not lend itself to tests of statistical significance.

4.4.8 CONCLUSION

This section of the study revealed that the majority (91.7 %) of the women, on demonstration, could perform BSE. The results also indicated that some of the women did not follow all the steps involved in examination of the breasts for abnormalities. Most of the women demonstrated how to examine the breast tissue and the nipples for abnormalities. In conclusion, this study which is a follow up of the breast week shows that the technique of Breast Self-Examination was remembered by the respondents. However, some of the women could not remember all the steps involved in BSE. These weaknesses or gaps in knowledge required a repeat demonstration of the correct technique used in BSE. This was done by the researcher.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of this study was to assess the effectiveness of a breast week for providing knowledge of breast cancer and Breast Self-Examination to women in Sierra Leone. The target population was 120 women who participated in the breast week. The study was directed towards the relevance of the breast week in an attempt to assess self-care and its effectiveness in breast health towards early detection of breast cancer. This chapter summarizes conclusions drawn from the findings of this study and provides recommendations pertinent to the study.

Performance of BSE involves a theoretical knowledge base as well as practical demonstration of knowledge. An assessment of the theoretical knowledge of the respondents on breast cancer and breast self-examination was done through a structured interview schedule. Practical ability to undertake BSE was determined through observation of the skill and a checklist. Within the given context, analysis of the data on these approaches provided the link between what is known and what is actually practiced by the respondents.

5.2 Summary of Socio-Demographic Data

The demographic figures indicate that the majority of the women were within the ages of 31-50 years. The majority of the women were also observed to be traders. Sixty one percent of the respondents had not had any formal schooling. With regards to lifestyle, smoking and alcohol intake are discussed as risk factors for breast cancer. In the study, data on the demographics of the participants showed that alcohol drinking and cigarette smoking were not

prevalent among the majority of the women. Similarly, contraceptives were only used by 21.7% of the sample.

Breast feeding practice is associated with risk reduction of breast cancer. It is of interest to note that the majority of the women with children breastfed their babies for relatively long periods. The breast-feeding practices suggested that all of the women who had had babies, breastfed all their babies. The duration of breast feeding ranged from one to two years. These key health practices are said to be beneficial in the prevention of breast cancer

5.3 Summary of Knowledge of Breast Self-Examination

Health promotion activities during the breast week were primarily concerned with teaching individuals to participate in the health care needs. The relationship between Breast Self-Examination and breast cancer is of direct relevance in these findings. The concept of “Self-Care” formed the theoretical base for this study described in Orem’s nursing theory of self-care. It was found that most of the women, 110, had not been practicing Breast Self-Examination until after they had received teachings on how to examine their breasts during the breast week. There was a change in attitude to breast health observed, as the study showed that these women engaged in self-care practices after the breast week. Findings also revealed that three women in the study had breast lumps detected on examination during the breast week.

5.4 Summary of Knowledge of Breast Cancer

Primarily, the main objective of teaching women how to examine their breasts is for the early detection and prompt diagnosis of breast cancer. Responses derived from the theoretical component of the study, indicated that the respondents were aware of the fact that breast

cancer is a disease that kills women if not treated promptly. Findings from the study also showed that a large percentage of the respondents (58.8%) viewed breast cancer as a serious disease affecting women. Another sub-group of women (42%) described breast cancer in relation to the signs and symptoms associated with the disease.

The relationship between health beliefs and health practices was identified by World Health Organization (WHO, 1988). As demonstrated in this study, traditional beliefs and myths formed part of the knowledge the women had on what causes breast cancer. Breast cancer was described in some of their responses (71.7%) as being caused by traditional superstitious beliefs. This finding could possibly provide a link or reason as to why some women sought cure for breast problems from traditional healers as discussed in Chapter One. The role of health education on demystifying these issues is relevant in a country with a high illiteracy rate.

5.5 Knowledge of Someone Affected by Breast Lump/Cancer

Being a woman increases a woman's life chances of suffering from breast cancer (Watts, 1990). Over half of the respondents (59.2%) indicated that they knew someone who had suffered from breast lumps or had died from breast cancer. Knowledge of someone dying from the disease proved to reinforce the serious nature of breast cancer to the women. Fear of the disease and its effects was cited in the study, as one of the reasons why these women examine their breasts. This finding may possibly have affected their perception of the disease and could be a possible reason why they made use of the offer to have their breasts examined for abnormalities, in addition to having participated in the events of the breast week. Early detection of breast cancer and increased survival rate was the key message of the health

education provided. It is worth noting here also, that one of the respondents selected for the study died from breast cancer a few months before this follow up study.

5.6 Sources of Information on BSE

Various sources of information were available to the respondents. Some however had limited knowledge due to an inability to get information from more than one source on breast self-examination and breast cancer. This trend indicates the need for health talks to be intensified and disseminated through more than one means of communication. Limited knowledge and inaccessibility to information seemed to result in a self-care deficit in some of the women. For this reason, the role of knowledge and its effectiveness in self-care deficits demonstrated in the study, clearly explains some of the concepts in Orem's theory of self-care. This theory supports the fact that if women are to be actively involved in their breast care; they need to be knowledgeable about the normal from the abnormal (Smyke, 1993; Orem, 1980). According to Smyke (1993), as previously cited in the study, information is power and is needed to bring about a desired change in behavior. The majority of the women (97.4%) got the information on how to examine their breasts for breast abnormalities with specific mention of breast cancer during the breast week. Some of the women reported obtaining knowledge on breast care during pregnancy from the antenatal clinic, but this was however directed towards preparation of the breasts for breast feeding.

5.7 Summary of Practical Skills of BSE

Outlined in Chapter Two are the steps to be followed in examination of the breasts (Berger & Bostwick, 1994; Cancer Association of South Africa, 2000). It was found that the majority of the respondents (91.7%) could perform BSE despite a few lapses in the technique. Mention was made by the women of the need for review by experts when abnormalities are detected

during BSE. Based on these facts, it can be concluded that the information given during the breast week was being utilized.

5.8 Conclusions

This study has demonstrated that breast cancer was recognized as a health problem for women. Breast Self-Examination is the only available screening method at the disposal of women in countries which cannot afford modern technology for breast screening. This study has shown that teaching women Breast Self-Examination enabled them to be involved in their self-care needs. The acquisition of knowledge by the respondents led to an increased awareness in BSE performance as a health related activity. In the context of Self-Care, Orem (1980), viewed individuals as biopsychosocial beings who engage in decisions and take action towards their wellbeing and health. Their ability to practice Breast Self-Examination was enhanced with the assumption of responsibilities for self-care. The study concluded that the majority of the women who have been given knowledge on how to perform BSE did continue the practice. In conclusion, the objectives of this study have been met.

5.9 Recommendations

Findings in this study highlight the issues surrounding women's participation in their breast health. In the light of this, recommendations in key areas of nursing practice are made as follows:

- **Nursing Practice**

The issue of breast cancer and BSE is relevant in nursing and deserves special attention. The role of a nurse as a teacher, counselor and educator is crucial in women's health and cannot be underestimated in the health education of clients as discussed in Orem's Self-Care Model. Nurses should use every opportunity to teach BSE and to reinforce the practice when seeing

women in health settings. Nurses should be encouraged to establish a database of causes of death and information relevant to diseases of the breast. Nurses need to motivate for the development of health policies.

- **Nursing Research**

This study demonstrated the beliefs and myths associated with causes of breast cancer. This finding suggests that more education and means of disseminating information on breast cancer is needed. Further research needs to be done to explore further traditional beliefs and myths and how best education can be promoted.

- **Nursing Education**

Nursing curricula must include information on breast cancer and methods of screening for the disease. Breast Self-Examination must be taught as a method of empowering women in their self-care.

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STRUCTURED INTERVIEW SCHEDULE
SECTION ONE: SOCIO-DEMOGRAPHIC DATA

		Coding
1. Age		
Below 18	<input type="checkbox"/>	1
18-30	<input type="checkbox"/>	2
31-50	<input type="checkbox"/>	3
51+	<input type="checkbox"/>	4
2. Marital status		
Single	<input type="checkbox"/>	1
Married	<input type="checkbox"/>	2
Divorce	<input type="checkbox"/>	3
Widow	<input type="checkbox"/>	4
Living with Partner	<input type="checkbox"/>	5
3. Occupation (How would you describe yourself)		
Housewife	<input type="checkbox"/>	1
Business Woman	<input type="checkbox"/>	2
Student	<input type="checkbox"/>	3
Employee	<input type="checkbox"/>	4
Others Please State	<input type="checkbox"/>	5
4. Highest level of education		
No Schooling	<input type="checkbox"/>	1
Primary School	<input type="checkbox"/>	2
Junior Secondary School	<input type="checkbox"/>	3
Senior Secondary	<input type="checkbox"/>	4
University	<input type="checkbox"/>	5

APPENDIX A

5. Religion

- Christian. 1
- Muslim 2
- Others 3

6. Social habits

6.1 Drinks alcohol

- Yes 1
- No 2

6.2 If yes, what type?

- Beer 1
- Wine 2
- Stout 3
- Local Brew 4
- Others please state. 5

6.3 How much per week?

- 1 Pint/ Can/Glass 1
- 2-4 Pints/Cans/Glasses 2
- 5+ Pints/Cans/Glasses 3

7. Smokes cigarette Yes 1 No 2

If Yes, How Many Per Day:

- 1-5 Cigarettes 1
- 6-10 Cigarettes 2
- 11-15 Cigarettes 3
- 15+ 4

8. Chews kola nuts Yes 1
No 2

8.1. If yes, how many per day

- | | | |
|---------------|--------------------------|---|
| ½ -1 Kola nut | <input type="checkbox"/> | 1 |
| 2-4 Kola nuts | <input type="checkbox"/> | 2 |

Reproductive Health History

9. Age at onset of menarche

- | | | |
|---------|--------------------------|---|
| 9 - 11 | <input type="checkbox"/> | 1 |
| 12 – 15 | <input type="checkbox"/> | 2 |
| 15+ | <input type="checkbox"/> | 3 |

10. Age at first baby

- | | | |
|---------|--------------------------|---|
| 18 - 25 | <input type="checkbox"/> | 1 |
| 26 – 33 | <input type="checkbox"/> | 2 |
| 34+ | <input type="checkbox"/> | 3 |

Contraceptive History:

11. Have you ever used contraceptive **Yes** 1
No 2

12. Are you currently using a contraceptive **Yes** 1
No 2

12.1. If yes please state the type

- | | | |
|------------|--------------------------|---|
| Oral | <input type="checkbox"/> | 1 |
| Injectable | <input type="checkbox"/> | 2 |
| IUCD | <input type="checkbox"/> | 3 |
| Barrier | <input type="checkbox"/> | 4 |
| Natural | <input type="checkbox"/> | 5 |
| Others | <input type="checkbox"/> | 6 |

13. Duration in years or months _____

APPENDIX A

14. Number of children delivered

0 – 3

1

4 – 7

2

8+

3

15. No of children alive

0 – 3

1

4 – 7

2

8+

3

Breast Feeding Pattern

16. Did you ever breast feed **Yes**

1

No

2

If Yes Then:

17. How long did you breast feed for

6 months & below

1

1 year – 1 year 6months

2

2 Years +

3

18. Number of children breast-fed

Section Two:

19. Did you attend the breast week?

Yes

1

No

2

20. What do you know about breast cancer?

21. What causes breast cancer? -----

22. How can it be detected early? -----

23. How did you get to know about breast self-examination? (B.S.E)

- | | | |
|------------------------|--------------------------|---|
| Through friends | <input type="checkbox"/> | 1 |
| Through the radio | <input type="checkbox"/> | 2 |
| Through reading books | <input type="checkbox"/> | 3 |
| Through nurses | <input type="checkbox"/> | 4 |
| Through a doctor | <input type="checkbox"/> | 5 |
| During the breast week | <input type="checkbox"/> | 6 |

24. What are the various ways of examining the breasts?

- | | | |
|------------|--------------------------|---|
| Standing | <input type="checkbox"/> | 1 |
| Sitting | <input type="checkbox"/> | 2 |
| Lying down | <input type="checkbox"/> | 3 |

25. What are the benefits of BSE? -----

26. Do you know of any one who has suffered from breast cancer or had lumps removed from their breast?

- | | | |
|-----|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

APPENDIX A

27. What happened to the person? -----

28. Had you ever had any problems with your breasts before the breast week?

- | | | |
|------------|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

29. If yes: how did you found out? Please explain-----

30. Have you received other teachings on B.S.E. apart from that on the breast week?

- | | | |
|------------|--------------------------|---|
| Yes | <input type="checkbox"/> | 1 |
| No | <input type="checkbox"/> | 2 |

31. If yes, from what source? -----

32. How has the knowledge on breast self-examination affected your life after the breast week? -----

33. Since the breast week, how often do you perform B.S.E?

- | | | |
|------------------|--------------------------|---|
| Once every month | <input type="checkbox"/> | 1 |
| Six monthly | <input type="checkbox"/> | 2 |
| Sometimes | <input type="checkbox"/> | 3 |
| Not at all | <input type="checkbox"/> | 4 |
| Others | <input type="checkbox"/> | 5 |

34. At what time?

- | | | |
|----------------------------|--------------------------|---|
| After monthly periods | <input type="checkbox"/> | 1 |
| When something is wrong | <input type="checkbox"/> | 2 |
| At any time I feel like it | <input type="checkbox"/> | 3 |

APPENDIX A

- When I am having my bath 4
- At the same time of the month 5
- I cannot remember 6

35. Give reasons why you examine your breasts

- Because I want to find out if there is any thing wrong 1
- Because It Is part of my routine check up 2
- I was told by the nurses that it should 3
be done by all women
- I had lumps in my breasts before 4
Before, so I need to check
- Because of the breast week 5

36. Prior to the breast week did you do BSE?

- Yes** 1
- No** 2

37. Have you ever detected any problems with your breasts?

If yes, where?

- Right breast 1
- Left breast 2
- Both breasts 3

38. What was it?

- Lump 1
- Changes in breast tissue 2
- Discharge from nipple 3
- Others explain 4

APPENDIX A

39. What did you do?

- Reported to the hospital 1
- Went to a traditional healer 2
- Applied some local herbs 3
- I was scared so I never talk about it 4
- Ignored It because I had no money to go
The Hospital 5
- Others Please State: 6

40. What Is It that can de done in hospital on detection of breast abnormalities?

41. Do you know of any other method of screening the breasts for abnormalities?

- Yes 1
- No 2

42. If yes: please explain -----

43. Have you gone through that method?

- Yes 1
- No 2

44. Which of these methods do you prefer, give reasons? -----

-

CHECKLIST FOR PERFORMANCE OF BREAST SELF-EXAMINATION**SKILLS ASSESSMENT OF BREAST SELF-EXAMINATION***** COGNITIVE DOMAIN**

***OBSERVE PARTICIPANT INSPECTING THE BREASTS FOR
ABNORMALITIES**

1. Breast Inspection – Ask participant to show how inspection of the breasts is carried out and what to look out for: (tick answers given).

1.1 Observes the breasts for changes in shape	Yes (1)	No (2)
1.2 Shows how to inspect the skin for abnormal changes	Yes (1)	No (2)
1.3 Inspected the shape of the nipples	Yes (1)	No (2)
1.4 Explains reasons for inspecting the breasts	Yes (1)	No (2)

***AFFECTIVE AND PSYCHOMOTOR DOMAINS**

***OBSERVE PARTICIPANT PALPATING THE BREASTS FOR
ABNORMALITIES**

2. Breast Palpation – Ask participant to show how she examines her breasts

Observes how she performs BSE (Tick Skills according to activities performed)

2.1 Position used:

A. Sitting (1)

B. Standing

C. Lying down

2.2 Pattern used:

- Place hand under the head whilst examining breast	Yes (1)	No (2)
- Palpates the breast in a circular manner	Yes (1)	No (2)
- Palpates the breast in sections (Quadrants)	Yes (1)	No (2)

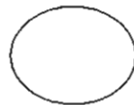
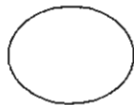
- Press down firmly using the palm of her hand Yes (1) No (2)
- Palpates breast and axillary area Yes (1) No (2)
- Palpated the whole breast Yes (1) No (2)
- Squeezed the nipple for discharge Yes (1) No (2)
- Repeats the same procedure for the other breast Yes (1) No (2)
- Skills mastered (1) Satisfactory (2) Unsatisfactory

*** 3. Detection of Abnormalities**

- 3.1 Did participant report noting any abnormalities Yes (1) No (2)

*** Researcher repeats examination of the breasts**

- 3.2 Was any abnormality detected or confirmed? Yes (1) No (2)
- 3.3 If yes, indicate location on breast



(1) Right Breast

2) Left Breast

(3) Both Breasts

- 3.4 What type of abnormality was it?
(A) Lump (B) Skin changes (C) Nipple discharge (4) Others

- **4. Actions** - Correct where necessary and give appropriate teaching if participant cannot perform BSE satisfactorily

- Give appropriate counselling and support if abnormality was detected
- Refer appropriate to breast surgeon and team or to participant's doctor
- Emphasized prompt reporting and follow up later

- Give BSE Pamphlet & Ribbon to participant and extend

“Thank You to Participant”

APPENDIX B

National School of Midwifery
P. C. M. Hospital
Fourah Bay Road
Freetown, Sierra Leone

Nov 2003 - Dec 2004

Dear Participant,

Re: Permission to Participate in Research Study

I am Joan Shepherd, nurse-midwife tutor presently pursuing my Masters degree in Midwifery/MCH at the University of Natal, Durban, in South Africa. I am conducting a research study on Breast Self-Examination in women in Freetown. This study is a follow up of the breast week that was held in November last year 2002 which you participated in. Breast cancer and other abnormalities of the breast are some of the health problems affecting women. In light of this, it is important to assess the effectiveness of the information you received during the breast week so that other women will benefit from this study in the future.

For this study, information is required from you, as you have been randomly selected as one of the participants for this study. The study involves two phases, filling out a questionnaire and performing Breast Self-Examination. You are assured of privacy and anonymity will be maintained. All information collected during this study, will be treated as confidential. The whole exercise will last for 35 minutes. This research study is an assessment of what you have learnt during the breast week. However, if you wish to drop out of the study you are free to do so. As a token of appreciation, you will receive a pamphlet containing information on Breast Self-Examination and a pink ribbon. Kindly indicate your willingness to participate in this study by signing this letter. Thank you for your cooperation.

Joan H. E. E. Shepherd

Signature of Researcher

Signature of Participant

Thank you for participating in this study



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RESEARCH ETHICS COMMITTEE

Student: Joan Harisah E E Shepherd

Research Title: An Assessment of the Effectiveness of Knowledge of Breast Cancer and Breast Self-Examination in Women in Sierra Leone

A. The proposal meets the professional code of ethics of the Researcher:

YES NO

B. The proposal also meets the following ethical requirements:

	YES	NO
1. Provision has been made to obtain informed consent of the participants.	✓	
2. Potential psychological and physical risks have been considered and minimised.	✓	
3. Provision has been made to avoid undue intrusion with regard to participants and community.	✓	
4. Rights of participants will be safe-guarded in relation to:	✓	
4.1 Measures for the protection of anonymity and the maintenance of confidentiality.		
4.2 Access to research information and findings.	✓	
4.3 Termination of involvement without compromise.	✓	
4.4 Misleading promises regarding benefits of the research.	✓	

Signature of Student: J. E. Shepherd Date: 30-09-03

Signature of Supervisor: A. M. M. M. M. M. Date: 30.09.03

Signature of Head of School: [Signature] Date: 30.09.03
(Chair of School Board Committee)

Signature of Chairperson of the Committee: Frescura Date: 30 SP'03
(Professor F Frescura)

APPENDIX D

University of Natal,
Durban,
School of Nursing

To: The Chairman
Ethic's Committee on Health.
Ministry of Health & Sanitation
Freetown,
Sierra Leone

August 2003.

Dear Sir/Madam,

Re: Letter Of Permission To Conduct Research Study In Freetown, Sierra Leone.

I am Joan Shepherd Nurse-Midwife tutor in-charge of the National School of Midwifery, Fourah Bay Road, Freetown. I am presently on study leave pursuing a Master's degree course in Midwifery and Maternal and Child Health at the University of Natal, Durban in South Africa. As part of the course requirement, students are expected to conduct a research study on a topic relevant to their field of study and of interest to them. In the light of this, I have chosen as my research topic "**An Assessment Of The Effectiveness Of Knowledge OF Health Education On Breast Self-Examination In Women In Freetown, Sierra Leone**".

This study is a follow up of the 'Breast Week' that was organised in November 2002 for which officials of the Ministry of Health and Sanitation were duly informed. Hopefully the study will be conducted in December at the premises of the National School of Midwifery. Internationally, women's health is receiving the very much-needed attention and the issue of breast cancer is one such problem that is of concern to all. In an attempt to address the knowledge deficit in the area of breast health, the 'Breast Week' was organised. An awareness-raising programme was thought to be

appropriate at this time as some women are observed to report at a time when the disease is in its terminal phase and very little can be done for them.

Data for the study will be collected by means of a structured interview schedule and an observational method using a checklist. Participants of the study will constitute a random selection of 120 women who participated during the 'Breast Week'. Due ethical consideration has been given to the rights of the participants and these have been incorporated into the tool to be used in the collection of data. Anonymity, confidentiality and privacy will be maintained throughout the study. As a token of appreciation, participants will be given a pink ribbon and pamphlet demonstrating Breast Self-Examination at the end of the study.

I am hereby seeking your kind approval and permission to conduct my research in Freetown. I will endeavour to abide by the rules and regulations as laid down by the Committee. A copy of the research proposal and the letter to the participants are enclosed for your kind attention.

Thank you in advance and looking forward to hearing from you.

Yours faithfully,

.....

Joan H. E. E. Shepherd.

Acting Principal,

National School of Midwifery

Copy:

1. The Ethics Committee, University of Natal, Durban.
2. The Research Supervisor, School of Nursing, University of KwaZulu-Natal.
3. The Consultant Surgeon in-Charge, PCM Hospital.

Do you know that 95% of all breast cancers are discovered first by women themselves? And that the earlier breast cancer is detected, the better the chance of complete cure?

Of course, most lumps or changes are not cancer. But you can help safeguard your health by making a habit of examining

how to examine your breasts

how to look for changes

Step 2
Place your arms above your head and repeat the examination in step 1.



your breasts on a monthly basis—two days after your period or, if you're no longer menstruating, on any given day. And if you notice anything changed or unusual—lump, thickening or discharge—contact your doctor right away.



Step 1
Sit or stand in front of a mirror with your arms at your sides. Turning slowly from side to side, check your breasts for:

- changes in size or shape
- puckering or dimpling of the skin
- changes in size or position of one nipple compared to the other



Step 3
Gently press each nipple with your fingertips to see if there is any discharge.

how to feel for changes

Step 2
Imagine that your breast is divided into four quarters.



Step 1
Lie down and put a pillow or folded bath towel underneath your left shoulder. Then place your left hand under your head. (From now on you will be feeling for a lump or thickening in your breasts.)

Step 4
Now do the same for the inner-outer portion of your breast. You may feel a nodule of firm tissue under your breasts, if your breasts are larger than average. Or, if you are thin, you may feel one through your braids. This is perfectly normal.



Step 3
With the fingers of your right hand held together, press firmly but gently using small, circular motions to feel the inner-outer portion of your breast, starting at your bra's band and working toward the nipple. Also examine the skin around the nipple.

Step 5
With your arm still down, feel the upper-outer part of your breast, starting with your nipple and working outward.



Step 6
Next, bring your arm down to your side and feel under your left armpit for swelling.



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Step 7
Finally, with your arm still down, examine the lower-outer quarter in the same manner.

Step 8
Now raise the pillow under your right shoulder and repeat steps 1-7 this time using your left hand to examine your right breast.

1. Introduction

Most breast problems present with a palpable abnormality. Early detection leads to early investigation and treatment, and for this reason it is good to be in the habit of self-examination on a regular basis. Women of all ages should perform self-examination since breast problems can occur at any age.

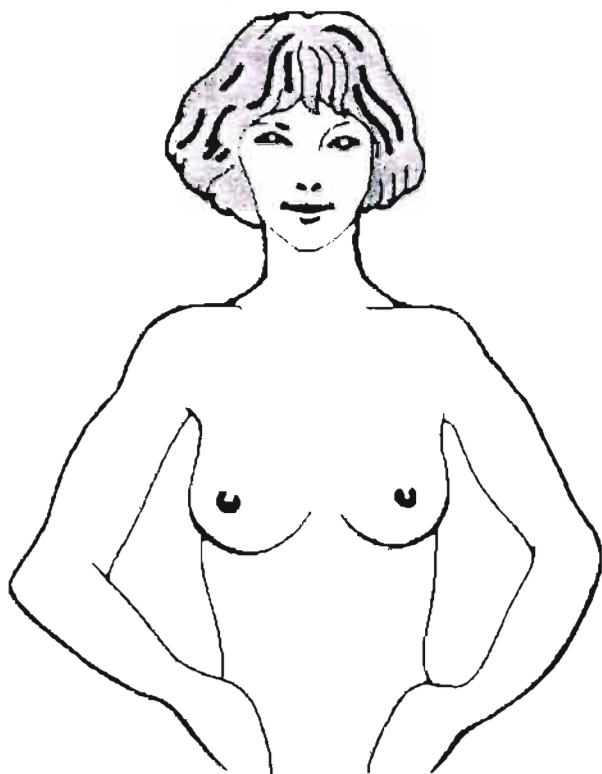
The best time of the month to perform self-examination of the breast is after menstruation, when the breast tissue is softer and lumps are more likely to be felt. Immediately prior to menstruation the breast becomes naturally lumpy and often tender - features that can disguise a problem if one is present.

For women who are post-menstrual, or who have had hysterectomy, a suitable time should be chosen - for example the 1st day of the month. Examination more frequently than this is probably not necessary and may lead to increased anxiety.

A woman who regularly examines her breasts will get a very clear idea of her normal breast texture and consistency, and will help her to notice if something is different.

Outlined below is one method of self-examination. Individual hospitals and specialists may advise slightly different methods, but the principles are the same.

2. How to perform self-examination



In front of a mirror - hands at side

Stand in front of a mirror with your hands on your hips.

Look at the breast for any of the following:

- Asymmetry
- Lumps or swellings
- Dimples
- Ulceration
- Changes in skin colour
- Nipple retraction
- Nipple discharge

Compare one side with the other.



In front of mirror - with hands up

Repeat the above inspection of the breasts with the hands raised above the head.

Remember to look at the undersurface of the breast, especially if the breast is large.

Mirror examinations should also be done looking at the breast side-on.



In the shower

NOTE ON FEELING FOR LUMPS . . .

Finger tips are very sensitive and can detect tiny surface irregularities that may give the impression of one or many lumps when there is really nothing but normal tissue.

The flat of the hand and pads of the fingers are less "sensitive" and will tend to reveal more obvious problems.

If you think a lump is present, examine that area in more detail with the finger tips.

Starting with the right side. Place the left hand above your head to "spread" the breast tissue across the chest wall.

Using the flat of the left hand, examine the breast in circular motions. Make sure to cover each quadrant of the breast and end by moving your hand up into the axilla. (Remember part of the breast called the axillary tail extends up to the edge of the axilla).

What to feel for:

- Lumps or thickenings (may be hard or soft, big or small, or may just feel like "something different" from usual)
- Prominent one-sided lumpiness. (Usually lumpiness when present is similar on both sides)
- Swellings or lumps in the axilla
- Areas of tenderness

Always compare sides. Once finished examining the right breast, repeat the same procedure for the other side.



Lying Down

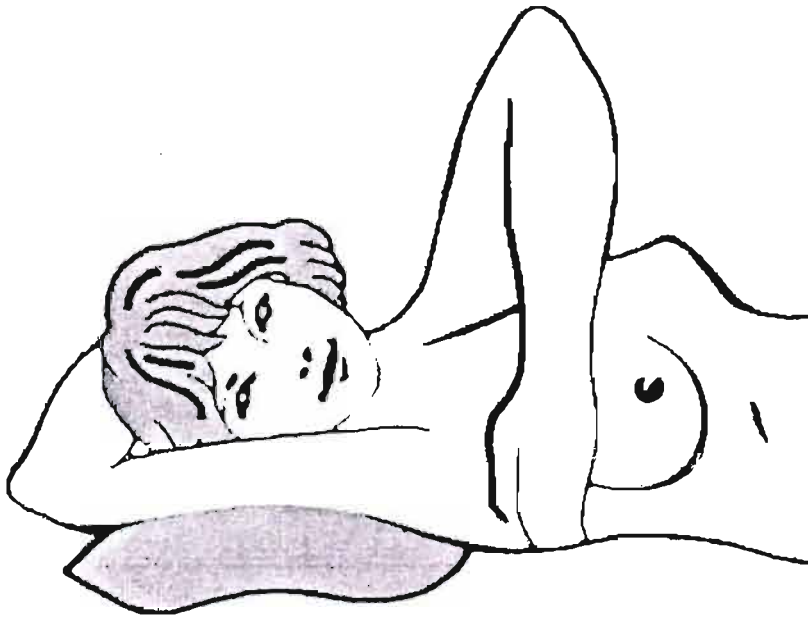
Lie down with one hand behind your head and a pillow under your shoulder.

Using the other hand palpate the breast feeling for the same features mentioned above.

Once again, use circular motions with the flat of the hand and don't forget to examine the axilla.

Finally, gently squeeze the nipple to check for discharge.

Repeat this procedure lying on the opposite side.



Key Points

Self-examination is useful in women of all ages

Perform self-examination regularly at the same time of the month (in menstruating women after the period has finished)

Inspect for visible abnormalities

Feel for palpable abnormalities

If you find anything out of the ordinary, consult your doctor or breast specialist.

It goes without saying that if anything is found to be abnormal or different from the norm, then it should be reviewed by your doctor or breast specialist.