

UNIVERSITY OF CAPE COAST

THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE OF  
BREAST SELF- EXAMINATION AMONG NURSES IN THE EFFIA  
NKWANTA REGIONAL HOSPITAL IN THE SEKONDI TAKORADI  
METROPOLIS

FRANCISCA OHENE AKUFFO

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METROPOLIS

By

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Thesis submitted to the Department of Health, Physical Education and Recreation of the College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for award of Master of Philosophy Degree in Health Education

JULY 2014

## DECLARATION

### Candidate's Declaration

*I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.*

Signature ..... Date.....

Name: Francisca Ohene Akuffo

### Supervisors' Declaration

*We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.*

Principal Supervisor's Signature:..... Date:.....

Name: Prof. Joseph K. Mintah

Co-Supervisor's Signature ..... Date.....

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## **ABSTRACT**

The purpose of the study was to compare the level of knowledge, attitude and practice of breast self-examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana. Five research questions were formulated to guide the study.

The descriptive design was used to conduct the study. The accessible population consisted of 229 nurses working at the regional hospital in the Sekondi-Takoradi Metropolis where the sample population were selected. A sample size of 130 nurses was considered representative enough for the study. The purposive sampling method was first used to select the category to be used for the study. The nurses who were chosen for the study have had not less than 3 years standing experiences. The instrument for the data collection was a researcher-developed questionnaire.

It was observed that virtually all respondents had heard about breast cancer. In a similar manner, almost all respondents were aware that breast cancer can be easily detected. It was recommended that Emphasis should be laid on BSE in undergraduate and postgraduate courses, especially for nurses, as they are mostly involved in patient care and education.

## **ACKNOWLEDGEMENTS**

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## **DEDICATION**

To my family.

## TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
DEDICATION	v
LIST OF TABLES	x
LIST OF FIGURES	xii
CHAPTER	
ONE INTRODUCTION	1
Background to the Study	1
Statement of the Problem	12
Purpose of the Study	13
Research Questions	14
Significance of the Study	14
Delimitation of the Study	15
Limitations of the Study	15
Definition of Terms	15
Organisation of the Rest of the Study	16
TWO REVIEW OF RELATED LITERATURE	17
Screening Methods for Breast Cancer	17

Digital Mammography	26
Magnetic Resonance Imaging	27
Clinical Breast Examination	29
Breast Self- Examination	29
Clinical Breast Examination	31
Structural Barriers to Breast Examination	33
Knowledge on Breast Self-Examination	35
Attitude on Breast Self-Examination	38
Practice of Breast Self-Examination	40
The Breast Self- Examination Concept	43
The Health Belief Model	47
The Beginning of Breast Self-Examinations	49
Breast Self-Examination for Early Detection of	
Breast Cancer	50
Studies on Breast Self-Examination	52
Perceptions of Breast Self –Examination	68
Challenges of Breast Cancer Screening	70
Breast Self- Examination Controversy	70
Summary of Review of Literature	72
THREE METHODOLOGY	74
Research Design	74
Population	74
Sample and Sampling Procedure	75
Instrument	76



Validity and Reliability of the Instrument	77
Data Collection Procedure	77
Data Analysis	78
FOUR RESULTS AND DISCUSSION	79
Research Question 1: What is the Extent of Knowledge of Breast Self-Examination among Nurses?	79
Research Question 2: What is the Extent of Nurses' Attitude Towards Breast Self-Examination?	84
Research Question 3: What is the Extent of the Practice of Breast Self-Examination among Nurses?	89
Research Question 4: What is the Difference in Knowledge among Nurses of Different Ranks?	95
FIVE SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	103
Summary	103
Overview of the Study	103
Key Findings	104
Conclusions	105
Recommendations	105
Suggestions for Further Research	105
REFERENCES	107
APPENDICES	127
A    QUESTIONNAIRE	128
B    NURSING STAFF LIST BY RANK AND DISCIPLINE	134



## LIST OF TABLES

Table	Page
1 Knowledge of Breast Cancer	80
2 Source of Information about Breast Cancer	81
3 Gender that should Perform Breast Self-Examination	82
4 Respondents' Opinion on how to Perform Breast Self-Examination	82
5 Opinion of Nurses on How Well they are Informed about Breast Self-Examination	85
6 Attitude Towards Breast Self-Examination	85
7 Level of Interest in Doing Breast Self-Examination	86
8 Level of Importance of Breast Self-Examination and Early Detection	86
9 How Frequent Nurses have Considered Doing Breast Self-Examination	87
10 Likelihood of Regular Breast Self-Examination	88
11 Reasons for Breast Self-Examination	90
12 Reasons Why Respondents Have not done Breast Self-Examination before	90
13 Frequency of Performing Breast Self-Examination in a Year	91
14 Propensity to Practice More on Breast Self-Examination	91
15 Age at Which Respondents Started Breast Self-Examination	92
16 The Last Time Respondents Performed Breast Self-Examination	93
17 Time Respondents Normally Performed Breast Self-Examination	93

18	Where Respondents Normally Perform Breast Self-Examination	93
19	Knowledge of Breast Cancer among the Different Category of Nurses	96
20	Sources of Information about Breast Cancer among Three Groups of Nurses	97
21	Gender that Should Perform Breast Self-Examination Distributed among the Three Category of Nurses	99
22	Respondents' Opinion on How to Perform Breast Self-Examination, a Distribution of Responses among the Nursing Ranks	100

## LIST OF FIGURES

Figure	Page
1 Health Belief Model	48

## **CHAPTER ONE**

### **INTRODUCTION**

#### **Background to the Study**

Breast cancer is one of the leading causes of mortality among women worldwide. The World Health Organization (WHO, 1997) estimates that over twelve million women die annually from the disease worldwide and the disease is showing increasing incidence among young women (American Cancer Association, 2004).

Carcinoma of the breast is one of the leading causes of death in women aged 30 years and above. It reduces the life expectancy of the population at risks especially those between 31-50 years. Breast cancer is becoming more common worldwide (American Cancer Association, 2004). The incidence of breast cancer is rising more rapidly in population (developed nations) that enjoyed a low incidence of the disease. Breast cancer has become the commonest malignancy (excluding skin cancers) in women worldwide. It has unfavourable prognosis in women aged 40 years or younger (Haris, Lippman, Veronesi & Willet, 1992). Breast cancer incidence rates have been increasing since the 1980s, though the rate of increase has slowed in the 1990s. Mortality rates have increased by 2.3% per year from 1990-2000, with an even larger increase in deaths among women less than 50 years of age (American Cancer Association, 2004).

Caucasians especially of North America descent seem to have been reported to have the highest incidence of breast cancer (Parkin, Muir, Whelan, Gao, Ferlay, & Powell, 1992). However, reports from other parts of the world indicate an increasing incidence as the women presumably adapt “Western” lifestyles. In multi-ethnic societies, the incidence of mortality differs among the various races creating the impression of certain constitutional or genetic factors. The black woman presents late for treatment with a bigger mass and seems afflicted with more aggressive tumors (Parkin et al., 1992). There are a lot of epidemiological variations in the occurrences of breast cancer in the developed and developing countries. The peak age of incidence of the disease in Nigeria and Ghana is at least a decade earlier compared to the Caucasians (Parkin et al., 1992). Breast cancer is rare in men, the ratio is 1:100 compared to women (Donegan, Redlich, & Lang, 1998).

Among Nigerian women, breast cancer is the most common cancer and the second leading cause of death (Adebamowo & Ajayi, 2000). A report from Zaria described the mean age at presentation of cancer as 42 years with 30% occurring in women less than 25 years of age (Solanke, 1996). A ten- year review of breast cancer in Eastern Nigeria revealed that patients with breast cancer constitute 30% of all patients’ with disease and that 69% of all patients were premenopausal (Solanke, 1996). There is a lot of concern as to what to do for a woman once breast cancer is detected. In a country like Nigeria, where the coverage of the population with health facilities is in a disequilibrium state, and where radiotherapy is available in only a few centres, there is the need to address

cancer prevention strategies as they plan to check communicable and nutritional disease (Solanke, 1996). Mammography as a screening technique for breast cancer appears to have a more limited role in younger women with a sensitivity of only 76% (Baines, 1992). More so, this facility is not readily available in developing countries and the cost of mammography for screening breast cancer is beyond the reach of most women in developing countries including Nigeria and Ghana.

In Ghana, breast cancer accounts for 15.4% of all malignancies and appears to be on the increase (Baddoe & Baako, 2000). In 1996, 12.8 % of all admissions for malignant neoplasms to the Korle-Bu Teaching Hospital (KBTH) were for breast cancer. There have been many public education programmes about breast cancer within the last few years. Some non-governmental organizations like Mammo Care Ghana, Reach for Recovery and the Cancer Society of Ghana have been formed to create breast cancer awareness in the general public (Biritwum, Gulaid & Amaning, 2000). Yet, 50% or more of Ghanaians with breast cancer report to hospital with advanced disease. On the average, patients report 8 months or more after first noticing a change in their breasts. Many of the patients referred to KBTH are seen at the surgical out-patient clinic (Asumanu, Vowotor & Naaeder, 2000)

The two main hospitals equipped to treat cancer that is Korlebu and Komfo Anokye and another further north in Ghana's second city of Kumasi - are seeing between 5,000 and 7,000 new cancer patients a year (Kelland, 2012).



Medical advances have shown that one-third of all cancers are preventable and a further one-third, if diagnosed sufficiently early, is potentially curable (Asumanu, et al., 2000). This observation demands that cancer control should be of increasing priority in the health care programmes of developing countries (Stillman, 1997).

One potentially important strategy in reducing breast cancer mortality is the use of screening to achieve earlier detection of cancer (Stillman, 1997). An excellent prognosis is directly associated with the stage at which the tumour is detected. The main methods of screening involve mammography, physical examination of the breast by a physician or qualified health workers or clinical breast examination (CBE), and breast self-examination [BSE] (Howe, 1981). Despite the advent of modern screening methods, more than 90 percent of cases of cancers of the breast are detected by women themselves, stressing the importance of breast self-examination [BSE] (Howe, 1981). A study on the case histories of patients referred to a unit at KBTH over a three-year period to determine any changes in breast cancer presentation revealed no improvement in breast cancer presentation at the KBTH over the past 5–10 years, in spite of breast cancer awareness programmes (Clegg-Lampsey & Hodasi, 2007). The 40–49 years remains the peak age at presentation as previously detected in other studies. A high rate of default among patients was also detected (Clegg-Lampsey & Hodasi, 2007).

Breast self-examination is to learn the topography of the breast; which in turn will allow one to notice changes in the future in order to detect breast masses or lumps (Park, 2002). Breast self-examination carried out once monthly, between the 7th and 10th day of the menstrual cycle goes a long way in detecting breast cancer at the early stages of growth when there is low risk of spread, ensuring a better prognosis when treated. Breast self-examination procedures though simple and non-invasive, requiring little time can only be practiced with the right attitude to sustain it and achieve the desired goal (Park, 2002).

Among women, 56% cited breast cancer as one of the top conditions they feared most (WHO, 1997; Spittle & Morgan, 1999). A study of cancer awareness in Nigeria showed that only 32% knew that a breast lump was a warning sign of cancer, 58.5% were not aware of most warning signs, 9.8% knew of methods of detecting cancer and 50% did not know that cancer was curable when detected early (Uche, 1999). This low level of knowledge of warning signs and detection may be responsible for late presentation, with as many as 64% of patients presenting 6 months after the onset of symptoms (Atoyebi, Atimono, Adesanya, Beredugo & da Rocha-Afodu, 1997). It is clear that breast cancer is not well understood by women (Madong, Obekpa, & Orkar, 1998) and there is a need for information and enlightenment if patients are to present early in hospitals (Wilkes, White, Beale & Cole-Tracy, 1999).

The association between knowledge of surviving patients and greater acceptability of diagnosis may have a synergistic, cumulative effect. Knowledge of long-term survivors may stimulate early consultation for symptoms, which may

lead to an earlier average stage at presentation, resulting in turn in more long-term survivors. We conclude that enhanced awareness has considerable potential for improving the stage at presentation and therefore survival. How to engender that awareness among health care workers as well as the general public and on which particular facets of breast disease to focus are priorities for evaluation, both globally and in local settings (Albert & Schulz, 2004).

The knowledge and attitude towards breast cancer is so low that majority of affected patients present late in the hospitals when little or nothing can be done again (Adebamowo & Adekunle, 1999). In a study to assess the knowledge and practice of breast self-examination among traders in Ibadan, Oyo state, less than one-third of the respondents (31.7%) were aware of BSE (Balogun & Owoaje, 2005). This is found to be lower than 85.5% of women studied in Port Harcourt and 50% of those studied in South Africa (Pillay, 2002; Jebbin & Adotey, 2004). A similar study conducted in China showed a lower awareness of 11.9% compared to that of those who were aware in Port Harcourt (Li, 1999).

Balogun and Owoaje (2005) reported in their study that 18% of traders practised breast self-examination and the highest was found amongst those aged 50-59 years and lowest for those aged less than 30 years. The practice of breast self-examination was reportedly higher among women who had no formal education and lowest amongst those with primary education.

In a study done in Washington (United States of America) on BSE beliefs, only 21% of those who did not practice BSE were personally in favour of the procedure as compared with 98% of those that made BSE a regular monthly

practice. However, many of those who did not practice BSE still felt that it was a good idea even though they were not in favour of it for themselves (Mary & Salazar, 1994).

Among the women who showed a film on breast cancer to see its effect on their attitude towards breast self- examination, majority felt that the film did not exert a favorable influence on their attitudes toward breast self- examination, the statements that it failed to motivate them, that it gave them no new knowledge, and that it failed to alter an already- existing unfavorable attitude were given with almost equal frequency (Mary & Salazar, 1994).

Although the incidence of breast cancer in developing countries is relatively low (Koet al., 2003), about 50% of all cases of breast cancer are diagnosed in these countries (Haji-Mahmoodiet al., 2002; Sadler et al., 2001). Based on a study during 1975–1990, Asia and Africa have experienced a more rapid rise in the annual incidence rate of breast cancer than that of North America and Europe (Shirazi et al., 2006).

Although mammography remains the best single diagnostic tool in the detection of breast cancer it is not routinely performed in Nigeria due to low level of awareness, ignorance, illiteracy, cost, high technology equipment and expertise required. False negative for mammography is higher in the younger age group, and this is likely to happen in areas where cases below the age of 30 have been widely reported (Anyanwu, 2000; Wu & Yu, 2003; Banjo, 2004).

There is also evidence that most of the early breast tumours are self-discovered and that the majority of early self-discoveries are by breast self-examination (BSE) performers (Okobia et al., 2006).

Cavda et al. (2007) reported that most female physicians and nurses (65% and 70% respectively) believed that BSE was unnecessary; therefore the need to evaluate breast cancer awareness, attitude and practice among female students who are going to be our future health personnel.

In Okobia et al. (2006), the age of the respondents ranged from 15 years to 26 years and above with the mean age group as 21 years. This age pattern is consistent with the present 9-3-4 educational system in Nigeria. The study was appropriate in this age group as most of them were young adults who should find out more information on breast cancer and breast self-examination before they reach the age of common occurrence of the disease and as future doctors, would be able to educate and advice their patients effectively. Most of the respondents surveyed had heard of breast cancer (97.3%) and 85.8% claimed they knew how (BSE) is done; the level of breast cancer awareness of the respondents may have been due to their area of study and level of education. In a similar study, it was found that the women who had tertiary education were more knowledgeable about breast self-examination while those who had primary education were the least knowledgeable (Balogun & Owoaje, 2005). Their primary source of information was the television/radio. This finding is consistent with the study conducted by the Family Planning Association of Hong Kong (1996) which revealed that the promotion activities by the media, billboards and advertisements effectively

exposed the public to breast cancer information. Similar observation was reported in an Eastern state of Nigeria (Nwagbo & Akpala, 1996). The least reported primary source of information on breast cancer in the study was the home of the respondents (23%). This is one of the gaps existing in family life education as parents and care givers have no time to discuss pertinent health issues with their children. It might also be due to the fact that some of the parents have no information or knowledge on some of these topics and as such have little or nothing to discuss (Saludeen et al., 2009).

A little more than half (65.4%) of the respondents believed that it is necessary to perform breast self-examination. This showed that the level of concern about screening for breast cancer is still low among the respondents considering their status as medical students and a lot much more would be expected from them as future doctors.

Again, 83.1% of the respondents claimed to have carried out breast self-examination before; this demonstrates that some attention is being given by the young adults in this study to check their breast for early onset of lump and other symptoms of breast cancer, though not regularly as nearly half (43.5%) of the respondents had not examined their breasts in nearly one year. This may partly be because of the assumption that they are free from breast pathology. As a result of this ignorance, little emphasis may be placed on regular BSE by such respondents (Kayode et al., 2005).

Globally, breast cancer is the most common malignant neoplasm among women (WHO, 2006). Cancer in all forms is responsible for about 12 % of deaths

throughout the world (Park, 2007). Breast cancer causes 376,000 deaths a year worldwide; about 900,000 women are diagnosed every year with the disease (WHO, 2006). This could rates could further increase by 50% to 15 million (WHO, 2003). Although the incidence of breast cancer in developing countries is relatively low (Ko, Sadler, Ryujin & Dong, 2003), about 50% of all cases of breast cancer are diagnosed in these countries (Ko, Sadler, Ryujin & Dong, 2003). Asia and Africa have experienced a more rapid rise in the annual incidence rate of breast cancer than that of North America and Europe (Shirazi, Champau & Talebi, 2006). The disease has been reported to have an early onset among Nigerian women (Odusanya & Tayo, 2001).

Cancer is a group of diseases that cause any affected part of the body to change and grow out of control. Most types of cancer cells form a lump or mass called tumour, when the tumour metastasize they are transported to and other part of the body where they continue to grow (Park, 2007). Not all tumours are malignant, some are benign while some are malignant. Benign tumours do not grow and spread the way malignant (cancerous) tumours do, and they are usually not a threat to life (Okubia, Bunker, Okonofua & Osime, 2006). Most types of cancer are named after the part of the body where the cancer first starts. Breast cancer begins in the breast tissues. In breast cancer the cells of the breast grow in a chaotic way. Instead of growing and dividing in a regular and expected order, they grow out of control. If the cancer is not treated, the cells can spread within the breast or even break off and (metastasize) to other parts of the body.

The high incidence of breast cancer necessitates the need for early detection since it aids early initiation of treatment thereby reducing mortality. Dolinsky (2006) stated that the important thing any woman can do to decrease her risk of dying from breast cancer is to learn how to perform breast self examination, have a regular physical examination by their physician and have regular mammogram screening. Among these various diagnostic measures put up for detection of breast lumps, breast self examination is the one that can be performed by individuals on their own and most lumps are detected by women themselves, and besides, it is cheap (Park, 2007). Even though mammography is a better and more efficient way of diagnosing breast cancer, in developing country like Nigeria, clinicians and women still rely on breast examination. This may be due to its availability and very low technicalities.

A breast self examination can help women detect cysts or other benign (noncancerous) breast problems between checkups. It can also help some women detect breast cancer. It is easy to perform breast self-examination, and it only takes a few minutes. Although it might seem strange or inconvenient at first, it is a skill that all women can use throughout life to help ensure good breast health. There is also evidence that most of the early breast tumours are self-discovered and that the majority of early self-discoveries are by breast self examination (BSE) performers (Okubia, Bunker, Okonofua & Osime, 2006).

Kayode, Akande and Osagbemi (2005) also asserted that despite the advent of modern screening methods, more than 90% of cases of cancers of the breast are detected by women themselves, stressing the importance of breast self-



examination. Okobia et al. (2006) also stressed that there is evidence that most of the early breast tumours are self-discovered and that the majority of early self-discoveries are by breast self-examination (BSE) performers. Previous studies on cancer detection practices have focused on women in urban and semi urban setting and little or no research have been conducted among women in rural and remote area. In most Nigerian villages, access to health care services, especially comprehensive diagnostic services is very low, if not completely unavailable hence, individual self health empowerment is very important. Female secondary school teachers are not only educators, but serve as role models and change agents who often offer useful counsel on health promotion especially in a very low literate society. Therefore, this study aimed at assessing breast self -examination practice among female secondary school teachers in Oko, Oyo State. The objectives of the study are to: assess female secondary school teachers' knowledge of breast self examination, to establish their awareness and sources of information, determine their attitude, and to describe the extent of practice of breast self examination among them.

### **Statement of the Problem**

Most women in Ghana have no access to mammography, a breast cancer detective device, which has a detection sensitivity of 76% (Baines, 1992). As a result, there is a high incidence of breast cancer with an average annual increase ranging from 0.5-3% (Parkin, Bray, Ferlay & Pisani, 2002). In 2002, global summit conference participants recommended a stepwise process for building the foundation for achieving earlier detection, as follows: promote the empowerment

of women to seek and obtain health care; create the infrastructure for the diagnosis and treatment of breast cancer; promote early detection through breast cancer education and awareness (Althuis, Dozier, Anderson, Devesa & Brinton, 2005). Also, the World Health Organization recommends breast self- examination as the gold standard for early detection of breast cancer (WHO, 1997).

Available literature shows that most women in developing countries have low knowledge of BSE leading to low detection rate, late detection and advanced breast cancer cases (Li, 1999; Balogun & Owoaje, 2005).

Nurses impart knowledge to people and influence attitudes and practices. But it is difficult to tell if all the nurses who come into contact with the populace have knowledge on BSE because of differences in their ranks. Besides it is also difficult to tell if all nurses have a positive attitude towards breast cancer and even practice what they know so that they can tell its efficacy. Thus the need to explore nurses knowledge of breast self examination, to establish their awareness and sources of information, determine their attitude, and to describe the extent of practice of breast self- examination among them.

### **Purpose of the Study**

The purpose of the study was to explore the level of knowledge , attitude and practice of breast self- examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana.

## **Research Questions**

The study was guided by the following research question;

1. What is the extent of knowledge of breast self-examination among nurses?
2. What is the extent of nurses' attitude towards breast self-examination?
3. What is the extent of the practice of breast self-examination among nurses?
4. What is the difference among nurses in terms of knowledge, attitude and practice towards breast self-examination?

## **Significance of the Study**

Late presentation of patients at advanced stages when little or no benefit can be derived from any form of therapy is common in Ghana when it comes to breast cancer (Biritwum, Gulaid & Amaning, 2000). Recent global cancer statistics indicate rising incidence of breast cancer and the increase is occurring at a faster rate (WHO, 1997). Worried by this prevailing situation with recent research suggesting that health behaviour may be influenced by level of awareness about breast cancer, this study will assess the knowledge, attitude, and practice of nurses towards BSE. The study hopes to get baseline data on nurses' knowledge; attitude and practice towards breast self- examination.

Raising awareness of BSE is known to improve the practical implementation of the procedure. This awareness creation is normally done by health workers especially nurses. The findings of the study will help establish the knowledge and the practice of the nurses. The findings of the study will benefit all women in the metropolis. The health directorate of the metropolis will also

benefit from the findings of this study by adding to the information on BSE available to the Directorate.

### **Delimitation of the Study**

The study is delimited to female nurses in Effia Nkwanta Regional hospital in Sekondi Takoradi Metropolis in the Western Region of Ghana.

### **Limitations of the Study**

This study was conducted for only one month and a half, which was a very short time for meaningful findings. Also, the issue of accessibility of the participants was a problem. Some of the participants were reporting for duty at night. Thus, the researcher had to visit the hospital several times, and some were in hurry to the extent that they spent few minutes responding to the questionnaire which might have affected the provision of useful data for this study. In addition, some of the nurses were on study leave and therefore could not be reached. However, measures were taken to ensure that accurate data were gathered and analysed to help draw meaningful conclusions for the study.

### **Definition of Terms**

**Breast cancer:** Breast cancer is a cancer that starts in the tissues of the breast.

**Breast self-examination:** (BSE) is a screening method used in an attempt to detect early breast cancer.

**Clinical breast examination:** A clinical breast examination (CBE) is a physical examination of the breast done by a health professional.

**Screening:** Screening is a strategy used in a population to detect a disease in individuals without signs or symptoms of that disease. Unlike what generally happens in medicine, screening tests are performed on persons without any clinical sign of disease.

### **Organisation of the Rest of the Study**

The rest of the study was comprised in four chapters. Chapter two of the study deals with the review of related literature. Topics such as screening methods for breast cancer, knowledge on breast self- examination, practice of breast self-examination, and attitude on breast self-examination were captured. Chapter three also addresses the methodology, which includes research design, population, sample and sampling procedures, and data collection and analysis procedures. The chapter four focuses on the results and discussion while the last chapter looks at the summary, conclusions and recommendations. Suggestions for further research were also covered.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

The purpose of the study was to assess the level of knowledge, attitude and practice of breast self-examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana. For the purpose of this chapter researches, articles, books and journals on BSE were read and literature was reviewed under the following sub-headings because they form the variables of the study. Specifically, the literature was reviewed on;

1. The Breast Self-Examination Concept
2. Screening Methods for Breast Cancer
3. Knowledge on Breast Self-Examination
4. Practice of Breast Self-Examination
5. Attitude on Breast Self-Examination
6. Summary

#### **Screening Methods for Breast Cancer**

Breast cancer is by far the most frequent cancer of women (23% of all cancers), with an estimated 1.15 million new cases in 2002, ranking second overall when both sexes are considered together. More than half of the cases are in industrialized countries about, 361,000 in Europe (27.3%) and 230,000 in North America (31.3%). Incidence rates are high in most of the developed areas

(except for Japan, where it is third after colorectal and stomach cancers), with the highest age-standardized incidence in North America (99.4 per 100,000) (Jemal, Clegg & Ward, 2004).

Breast cancer is the most commonly diagnosed cancer and common cause of death in women in the world. Current estimates by International Agency for Research on Cancer (IARC) for the global disease burden of breast cancer in the year 2002, estimates that there were approximately 1.15 million newly diagnosed cases and approximately 411,000 deaths as a result of cancer (Parkin, Bray, Ferlay & Pisani, 2002). Incidence, mortality, and survival rates vary fourfold across the world's regions because of underlying differences in known risk factors, access to effective treatment, and the influence of organized screening programs (Althuis, Dozier, Anderson, Devesa & Brinton, 2005). Incidence and mortality rates tend to be higher in high-resource countries and lower in low-resource countries. Conversely, fatality rates tend to be higher in low-resource countries (Parkin et al, 2002).

In part, the high incidence in the more affluent world areas is likely because of the presence of screening programmes that detect early invasive cancers, some of which would otherwise have been diagnosed later or not at all (IARC Handbook on Cancer Prevention, 2002). The incidence is more modest in Eastern Europe, South America, Southern Africa, and Western Asia, but it is still the most common cancer of women in these geographic regions. The rates are low (<30 per 100,000) in most of Africa (with the exception of South Africa) and in

most of Asia. The lowest incidence is in Central Africa (ASR, 16.5 per 100,000) (IARC Handbook on Cancer Prevention, 2002).

The observation in many countries world over is that incidence of breast cancer are increasing. Based on current estimates of an average annual increase in incidence ranging from 0.5% to 3% per year, the number of new cases projected to be diagnosed in 2010 is 1.4–1.5 million (Parkin et al., 2002).

In 2002, global summit conference attendees recommended a stepwise process for building the foundation for achieving earlier detection, as follows: promote the empowerment of women to seek and obtain health care; create the infrastructure for the diagnosis and treatment of breast cancer; promote early detection through breast cancer education and awareness. The report also recommended that if resources are adequate, early detection efforts should be expanded to include mammographic screening, since it offers considerably greater potential to reduce the incidence of advanced breast cancer than programs limited to earlier diagnosis of symptomatic breast cancer (Althuis, Dozier, Anderson & Devesa, 2005).

In the United Kingdom, Stockton, Davies, Day and McCann, (1997) found that in the 1980s before the National Breast Screening Programme (NBSP) began, the rate of advanced breast cancer fell dramatically, and it is believed that this down staging was due to increased awareness that resulted from the greater presence of public education messages about early detection. A similar pattern was observed in Yorkshire, where a generalized shift toward a more favourable



stage at diagnosis that could not be attributed to screening was observed before a reduction in mortality (Pisani & Forman, 2004).

Over 100,000 women a year in the United States are diagnosed with breast cancer, and the risk increases dramatically with age, with women at age 50 more than twice as likely to have breast cancer as women age 40 years (Young, Percy, & Asire, 1981). Breast cancer is reported to be a disease of both the developing and developed worlds. It is the leading type of cancer in women. Among Turkish women, breast cancer represents 24.1% of all cancers seen in women and is the second leading cause of cancer-related deaths and about 2,390 new cases of breast cancer were diagnosed in 1999 in Turkey (Online breast cancer resource, 2005). As age increases the risk of breast cancer increases. Inherited genetic mutations, family history and biopsy-confirmed hyperplasia are primary factors that increase the risk factors of breast cancer (American Cancer Society, 2005).

Early detection and prompt treatment offer the greatest chance of long-term survival (Sadler, Dhanjal, Shah, Ko, Anghel & Harshburger, 2001). Mammography, clinical breast examination and breast self-examination (BSE) are the secondary preventive methods used for screening in the early detection of breast cancer (Fung, 1998). Cancer screening tests play a pivotal role in reducing breast cancer related mortalities (Tang, Solomon & McCracken, 2000). The American Cancer Society (ACS) recommends CBE and mammography in the early detection of breast cancer (Smith, Saslow, Sawyer, Costanza, Evans, Foster, Hendrick, Eyre & Sener, 2003).

In low-income countries, early breast cancer constitutes only 30% of the entire breast cancer load compared to 70–80% in the developed nations (Chopra, 2001). Consequently, 5-year survival rates in developing countries range between 10% and 40% compared with over 70% in developed nations (Okobia & Osime, 2001).

In recent decades, the early detection of breast cancer has been accomplished by physical examination by a clinician (CBE), by the woman herself, or by mammography. Standardization of mammography practices enacted by the Mammography Quality Standards Act has led to improved mammography quality (Saslow, Hannan, Osuch, Alciati, Baines & Barton, 2004).

In trials that demonstrated the effectiveness of mammography in decreasing breast cancer mortality, screening was performed every 12 to 33 months. The evidence indicates that a large proportion of the benefit of screening mammography is maintained by biennial screening, and changing from annual to biennial screening is likely to reduce the harms of mammography screening by nearly half. At the same time, benefit may be reduced when extending the interval beyond 24 months. Screening for high risk individuals by BSE or CBE was maintained at once a month and quarterly for low risk individuals (Saslow et al., 2004).

Effective treatments, including radiation, chemotherapy (including hormonal treatment), and surgery are available for invasive carcinoma. Although the standard treatments women receive for ductal carcinoma in situ (DCIS) include surgical approaches as well as radiation and hormonal therapy,

considerable debate exists about the optimal treatment strategy for this condition (Saslow et al., 2004).

The current controversy over benefits of performing self-breast examinations and just simple breast awareness do not take into account the education individuals are given regarding self-breast examination. There is currently no study that demonstrates a group of individuals who have been taught the proper techniques of a self-breast examination. The techniques used in self-breast examinations alter the validity of the studies conducted. Self-breast examination will be of no benefit in early detection if it is done improperly, just as a mammogram would be of no benefit if a trained professional did not perform the screening. This is where the primary nurse's role has a great impact.

Assessing a patient's compliance of performing self-breast examinations should entail not only if she merely does the examination, but when she is doing them and how she is doing them. There is evidence-based practice that portrays the proper way to perform a self-breast examination. If you, as the primary nurse, are not educated on proper techniques of a self-breast examination, it is your responsibility to provide a resource to the patient that can properly demonstrate this.

Self-breast examination can be part of a key diagnostic plan in breast cancer prevention (O'Connor, 1996). For this screening tool to be effective, it is important for a woman to know what is normal for her. The most effective way to accomplish this is through consistency. One must be consistent in all factors that make up the self-breast examination. In the paragraphs to follow, the basics of a

self-breast examination and the key elements involved will be explained. These elements should be addressed and demonstrated to patients to ensure comprehension. The nurse could offer a breast model for return demonstration by the patient to ease any uncertainties.

Women should be provided education on the proper way to do a self-breast examination. The first steps should include the ideal time of month to perform the examination. This time should be approximately 2 days after the end of the menstrual cycle. In postmenopausal women, it should be a time during the month that they will recall every month. The self-breast examination begins by facing a mirror and examining the physical appearance of the breasts. Ask questions such as, are the breasts symmetrical, is the color consistent in both breasts, is the nipple dimpled, and is there any rash or abnormalities that can be visualized. Raise arms one side at a time to examine the underarm region.

The next step in a thorough self-breast examination involves position. Performing your monthly breast examination involves being in the same position each month. If performing in a standing position, the shower is an example of this, place one hand behind your head. Utilize the other hand to examine the breast. The technique and pattern that one chooses is an individual preference. Three different techniques are utilized, the Circle motion, the Up and Down motion, and the Wedge. The American Cancer Society recommends the Up and Down motion (O'Connor, 1996)

The Circle technique requires the use of your finger pads, not finger tips, of the first three fingers. Palpate the breast tissue, using three different types of

pressure. First palpate light, followed by medium pressure, and then complete the examination with firm pressure. Palpate from the nipple area outward in a circular pattern. Make sure to palpate the entire breast tissue, including into the underarm area. You are feeling for lumps, knots, or skin thickening.

The Up and Down technique involves doing your breast examination by utilizing the first three fingers of your hand and using the pads of your fingers to palpate all three types of pressure from the outside of the breast tissue to most inner side of the tissue. Palpate up the breast tissue and then back down until the entire breast tissue has been palpated. Complete the examination by moving the pads of the fingers up and down the underarm region continuing to utilize all three different types of pressure.

The Wedge technique involves using the pads of the first three fingers on your hand. Begin the examination in the nipple region. Palpate from the nipple outward, imagining the breast to be wedged in eight different sections. Walk the finger pads from the nipple to outmost region of the breast and then back up the breast toward the nipple, completing a wedge pattern. After the entire breast tissue is palpated using light, medium, and firm pressure, begin to palpate the underarm area for any lumps, bumps, or thickening.

Once the breast examination is completed on one side, proceed to the other breast, repeating all steps described previously. During the breast examination, it is important to pay close attention to detail. Become familiar with the tissue in your breasts. The familiarity will help detect any differences in the breast tissue in the following monthly breast examinations. This step is crucial in

early self-detection of breast cancer (Kegeles, 1985). Do not forget to palpate the area from the breast tissue to the collar bone, including the upper chest area.

Examining the nipples on both breasts involves more than physical appearance. It requires you to firmly press the nipple area, feeling for lumps or thickening. The final step in nipple examination involves squeezing the nipple between two fingers to check for fluid leakage (O'Connor, 1996). Any fluid expressed should be reported to your physician. Any changes in the skin at the nipple or around the nipple should also be reported to your physician.

When performing self-breast examination, it is important to remember that most women have lumps or lumpy areas in their breasts. Of the lumps that are examined, only 20% of them turned out to be cancer. Women who are diagnosed with fibrocystic disease find it difficult to perform self-breast examinations. Fibrocystic breast disease is common in middle-age women and elderly women (Bateman, 2006). The disease involves changes in the fibrous breast tissue. Women with this benign breast disease have fibrous breast tissue changes around or during the menses, and at older age due to breakdown of fibrous breast tissue causing changes in the feel of the breast. Benign *breast* conditions may clinically feel like cancer and therefore are examined closely and through imaging. Fibrocystic breast may present with cyst-like structure or thickened nodularity (Bateman, 2006).

For some women, self-breast examinations induce worry due to the fibrous breast tissue that may be palpated. For this reason alone, why it is important to be consistent and follow all steps of a self-breast examination. This

will educate women to normal breast tissue and what is abnormal to aide in early detection of breast cancer. Utilizing the tools of self-breast examination, yearly mammograms and clinical breast examinations, together with consistency, are the best protection in detecting early breast cancers.

### **Digital Mammography**

Digital Mammography (DM) detects some cases of cancer not identified by film mammography; film mammography detects some cases of cancer not identified by digital mammography. Overall detection is similar for many women. For women who are below 50 years or have dense breast tissue, overall detection is somewhat higher with digital mammography. It is not clear whether this additional detection would lead to reduced mortality from breast cancer (Barton et al., 1999).

The possibility of false-positive test results is similar for film and digital mammography. It is uncertain whether over diagnosis occurs more with digital mammography than with film mammography. Digital mammography is more expensive than film mammography.

Some clinical practices are now switching their mammography equipment from film to digital. This may curtail the availability of film mammography in some areas. Mammography is efficient in early detection of breast cancers as it can detect changes in the breast up to 2 years before a patient or physician can feel them. Although there has been a controversy in recent years regarding the value of screening for breast cancer with mammography, the ACS has continued to endorse the recommendation of screening mammography every

year for women aged 40 years and older. Results from various randomized controlled trials reported significant reductions in mortality with the periodic breast cancer screening with mammography (Smith, Cokkinides & Eyre, 2005). Biennial breast cancer screening after age 65 years was found to be a beneficial practice to reduce mortality at a reasonable cost in women without clinically significant co-morbid conditions (Smith, Cokkinide & Eyre, 2004).

### **Magnetic Resonance Imaging**

Studies of the use of contrast-enhanced MRI for breast cancer screening have been conducted only in very high-risk populations. In these studies, MRI detected more cases of cancer than did mammography. It is unknown whether detecting these additional cases of cancer would lead to reduced breast cancer mortality (Saslow et al., 2004).

Contrast-enhanced MRI requires the injection of contrast material. Studies of MRI screening have shown that MRI yields many more false-positive results than does mammography. Magnetic resonance imaging has the potential to be associated with a greater degree of over diagnosis than mammography (Saslow et al., 2004). Magnetic resonance imaging is much more expensive than either film or digital mammography.

Magnetic resonance imaging is not currently used for screening women at average risk for breast cancer. No women 75 years or older have been included in the multiple randomized clinical trials of breast cancer screening. Breast cancer is a leading cause of death in older women, which might suggest that the benefits of screening could be important at this age. However, three facts suggest that



benefits from screening would probably be smaller for this age group than for women aged 60-69 years and probably decrease with increasing age (Saslow et al., 2004).

- 1) The benefits of screening occur only several years after the actual screening test, whereas the percentage of women who survive long enough to benefit decreases with age;
- 2) A higher percentage of the type of breast cancer detected in this age group is the more easily treated estrogen receptor positive type;
- 3) Women of this age are at much greater risk for dying of other conditions that would not be affected by breast cancer screening (Barton et al., 1999).

Screening detects not only cancer that could lead to a woman's death but also cancer that will not shorten a woman's life. Women cannot benefit from but can be harmed by the discovery and treatment of this second type of cancer, which includes both cancer that might someday become clinically apparent and cancer that never will. Detection of cancer that would never have become clinically apparent is called over diagnosis, and it is usually followed by over treatment. Because of a shortened life span among women 75 years or older, the probability of over diagnosis and unnecessary earlier treatment increases dramatically after about age 70 or 75 years. Over diagnosis and unnecessary earlier treatment are important potential harms from screening women in this age group (Barton et al, 1999). Studies show that many women 75 years or older are currently being screened.

## **Clinical Breast Examination**

The evidence for CBE, although indirect, suggests that CBE may detect a substantial proportion of cases of cancer if it is the only screening test available. In part of the world where mammography is infeasible or unavailable and this can happen in an area such as India (Barton, Harris & Fletcher, 1999).

The potential harms of CBE are thought to be small but include false-positive test results, which lead to anxiety and breast cancer worry, as well as repeated visits and unwarranted imaging and biopsies. The principal cost of CBE is the opportunity cost incurred by clinicians in the patient encounter.

Surveys suggest (Saslow et al., 2004) that the CBE technique used in the United States currently lacks a standard approach and reporting standards. Clinicians who are committed to spending the time on CBE would benefit their patients by considering the evidence in favor of a structured, standardized examination (Barton et al., 1999).

## **Breast Self- Examination**

Breast self-examination (BSE) provides an inexpensive method for early detection of breast tumors, thus knowledge and consistent practice could protect women from severe morbidity and mortality due to breast cancer (Franek, Nowak-Kapusta & Cabaj, 2004).

A breast examination is a self-inspection of one's breasts. During a breast exam, the eyes and hands are used to observe the appearance and feel of the breasts. Breast exams allow one to become more familiar with her breasts. This may give one a greater awareness of the condition of his breasts. Breast exams

may help identify potential breast problems. Breast examination once thought to be essential for early breast cancer detection, are now considered optional. While other breast cancer screening tests have been proved to save lives, there's no evidence that breast exams can do this. What's now stressed is breast awareness being familiar with the normal consistency of breasts and the underlying tissue, as well as inspecting breasts for new changes (MFMER, 2011).

It is known in general that although nearly all women have heard of BSE and a majority has tried it at least once, few women practice regularly (Gallup Organization, 1984, 1988). Some studies have found a negative effect for age (Huguley & Brown, 1981); several have found mixed effects for age, with a pattern suggesting the most compliance for women in the middle years and less compliance for women both younger and older (Hill, Rassaby & Gray, 1982; Joseph, Simpson, McDonald, Unsworth & Carpenter, 1986). Many report no relationship of age to frequency of practice (Baines, Wall, Risch, Kuin & Fan, 1986; Bennett, Lawrence, Fleischman, Gifford & Slack, 1983; Celentano, Shapiro & Weisman, 1982; Lieberman, 1977; Rutledge, 1987).

Lerner (2002) sets it in the historical context. Systematic BSE has been recommended for more than 70 years and promoted by the American Cancer Society and the National Cancer Institute. In the 1970s, with the introduction of formal screening recommendations, which included BSE, the women's movement took up the cause (Baxter, 2001). Since then, women have come to believe that early detection of breast cancer can be equated with prevention and even cure (Morrison, 1994).

There is evidence that screening for breast cancer has a favourable effect on mortality from breast cancer (Harvey, Miller, Baines & Corey, 1997). Breast self-examination (BSE) is one of the important steps for identifying breast tumours at an early stage (Marinho, Costa-Gurgel, Cecatti & Osis, 2003). Thorough clinical examination and patient education in self examination can have a crucial impact on early identification of breast cancer; its diagnosis and, ultimately, enhanced survival. In many countries, especially developing countries like Nigeria and Ghana, BSE will most likely be the only feasible approach to wide population coverage as it is a cheap and easy method (Park, 2002).

The American Cancer Society (ACS) released updated recommendations regarding breast cancer screening methods in 2005 (American cancer society, 2006). According to these guidelines, women aged 20 years and above should be counseled regarding the potential benefits, limitations, and negatives associated with BSE and that they may choose to do BSE regularly, occasionally, or not at all. Due to lack of evidence supporting potential benefits of BSE in reducing cancer mortality, this screening method is not widely supported (Monali, Stephen, Venkatanaras, Electra & Rajesh, 2007).

### **Clinical Breast Examination**

An important feature of health care provider education is training in the clinical breast examination (CBE) procedure. CBE training is necessary as a key contributor to prompt diagnosis of symptomatic disease. In addition, it is likely to be of use in the early diagnosis of disease that is asymptomatic (i.e., unknown to the patient) in areas where mammographic screening is unavailable. Although this

examination may not be able to detect the very small tumors that can be seen only on mammography, it has the potential to improve the situation wherein the majority of tumors diagnosed are at stage III or IV (Baxter, 2001).

CBE is another important screening method used for early detection of breast cancer. According to the ACS recommendations, women aged between 20 and 39 years should have a CBE performed by a health care professional every 3 years. These guidelines suggest having CBE performed every year for women aged 40 years and older. While the sensitivity of combined method (CBEs + mammography) was higher in comparison to the mammography screening alone (Smith, Saslow & Sawyer, 2003), CBE alone is also found to be effective in some patients.

Approximately 5% of cancers reported in the National Breast and Cervical Cancer Early Detection Program were found only through CBEs and were not detected by mammogram (Smith, et al., 2003).

Despite the compelling logic for the value of CBE, evidence on its efficacy is remarkably limited. In fact, the lack of data on CBE was cited by the 2002 Global Summit as a factor in not directly recommending the implementation of CBE programs in limited-resource countries (Anderson, Braun, Lim, Smith, Taplin & Thomas, 2003). Further, most of the evidence is from higher-resource settings, and quite often in the context of the added value of CBE in the context of mammography (US Preventive Services Task Force, 2002). The Canadian National Breast Screening Study II (NBSS-2) found no significant difference in breast cancer mortality between the group offered mammography and the group

offered CBE (US Preventive Services Task Force, 2002). Barriers that preclude many women in multicultural societies are varied, some are organizational, psychological, and socio cultural barriers.

### **Structural Barriers to Breast Examination**

Structural barriers refer to the social factors related to women's place in the social system, with the ensuing personal resources and opportunities. Many women in developing countries, as well as minority women in the West, do not have health insurance that includes access to preventive services. In the United States alone, more than 25 million women have no access to health care except for emergency care; another 40 million have basic insurance plans with prohibitive deductibles and copayments that preclude them from using preventive services. Among those uninsured and underinsured, more than two-thirds are members of racial and ethnic minorities (De Navas-Walt & Proctor, 2004). In situations that they do have formal access to preventive services, many poor women cannot use them because of long travel distances and the lack of transportation, and an inability to take time off from work or pay for child care during their absence (Facione, Dodd, Holzemer & Meleis, 1997).

**Organizational barriers.** Organizational barriers reflect difficulties that are built into the medical encounters between minority women and the mainstream medical institutions: understanding the complex referral system diagnostics and treatment; communicating in their inadequate English or other host language; and facing arrogance from physicians, nurses, and administrative staff. Gender-related barriers are also at work: the need to expose one's breasts for examinations

performed by often male physicians, surgeons, or radiology technologists. This factor makes breast examinations especially difficult among religious Muslim women, for example, because rules of Islam strictly prohibit nudity and self-exposure in front of any man other than one's husband. For many such women, shame is worse than disease and death, and they will not visit women's health clinics unless they are staffed by women (Oppel-Baron, Mizrakhi & Kaplan, 2002; Bener, Honein, Carter, Da'ar, Miller & Dunn, 2002).

**Psychological barriers.** Psychological barriers are more common and pervasive. They all ensue from a deeply entrenched fear of cancer, which is perceived as a universally fatal disease, and hence any thought of cancer triggers multiple psychological defense mechanisms. One such mechanism is denial of one's own susceptibility, a belief that "this cannot happen to me" (Oppel, et al., 2002; Remennick, 2003).

**Socio-cultural barriers.** A major sociocultural barrier to breast screening in many traditional societies, especially Muslim ones, is that women's decisions and actions are controlled by men, and men may be unaware of or disapprove of screening. Furthermore, in many male-dominated societies, women's social status is totally dependent on their roles as wives, mothers, and housekeepers, as they have no independent income or other sources of identity and self-esteem (Oppel et al., 2002).

### **Knowledge on Breast Self-Examination**

A descriptive study in Tehran investigated how religion might contribute to breast self-examination (BSE) among Muslim women. Ninety percent indicated BSE is not against their religious beliefs, although only 6% of respondents stated they performed BSE consistently on a monthly basis. Fifty-eight percent preferred to be examined by a female physician though 47% said that a clinical breast examination by a male physician is not against their Islamic beliefs (Montazeri, 2003).

A study evaluating the national breast cancer information services indicated that it was effective in providing information and support for patients, relatives and the general public. Performing BSE was defined in 6% of the women regularly (Jarvandi, Montazeri, Harirchi & Kazemnejad, 2002).

Early detection of breast cancer can be achieved by performing breast self examination (BSE), clinical breast examination (CBE), and mammography. A recent study by Madong, Obekpa and Orkar (1998) conducted in the State of Qatar reported that the incidence rate of breast cancer was high (30.1 / 100,000). The increasing trend of incidence rate of breast cancer (Holcombe, Weedon, & LIwin, 1999) shows the lack of knowledge about breast cancer and the screening methods among women in Qatar.

Recent studies have revealed that although Qatar women had adequate general knowledge about breast cancer, the screening rates of BSE, CBE, and mammography were low in women for early detection of cancer. Education



appeared to be the major determinant of level of knowledge and for practicing screening procedures (Mugitit, 1993; Spittle & Morgan, 1999).

In a study conducted in Ibadan on female traders by Balogun and Owoaje (2005) one hundred and ninety two (68.3%) of the traders were not aware of breast self-examination while 89 (31.7%), were aware and 51 (18.1%) of the traders had never checked their breast. The level of awareness of breast self examination was highest (38.7%) among those aged 50-59 years and was lowest among those less than 30 years and 60 years. The women who had tertiary education were more knowledgeable about breast self-examination while those who had primary education were the least knowledgeable.

In a study done in Ilorin Nigeria on secondary school teachers, most respondents, 326 (95.6%) had heard about BSE at one time or the other. The commonest source of information about the topic was the television, 97 (29.7%); closely followed by information through friends, 92(28.2%). Sixty-four (19.6%) of those who have heard about it heard from multiple sources while only 15 (4.6%) heard from health personnel. One hundred and forty-six (42.8%) of those studied felt BSE should be done once monthly, 50 (14.7%) indicated three-monthly, equal proportion of 23 (6.7%) each for twice yearly and once yearly respectively while 99 (29.1%) did not know how often BSE should be done (Kayode, Akande & Osagbemi, 2005).

Odusanya and Tayo (2001) reported that Nigerian nurses were well-informed about breast cancer signs, diagnostic tests and BSE knowledge. Vurur, Kaya, Ünüvar and Sezgin (2005) showed that 86.3% of nurses inform patients

correctly about the frequency of BSE, but fail to suggest the correct age to begin. Various studies have also stated that nurses and teachers lack knowledge about BSE (Seif & Aziz, 2000; Odusanya, 2002) in contrast; Franek, Nowak-Kapusta and Cabaj (2004) reported that 63% of nurses knew almost everything about early breast cancer detection. Surprisingly, in this study, nurses knew less than expected about the position for BSE, although they had more positive answers about performing BSE.

Clarke and Savage (1999) reported that BSE can be taught by a variety of professionals including nurses, physicians, trained peer educators, researchers and graduate students without major differences. Heyman, Tyner, Phipps, Cave and Owen (1991) found that a program of instruction improved the abilities of nurses to teach BSE to their patients. Our findings strongly suggest that nurses and teachers should be encouraged with more theoretical background. In support of this result, both nurses and teachers were eager to learn more details about BSE.

Demirkiran, Balkaya, Memis, Turk, Ozvurmaz and Tuncyurek (2007) study revealed that the percentage of participants who had knowledge of BSE was higher in nurses than in teachers (81.5% versus 45.1%) ( $\chi^2 = 39.039$ ,  $p = 0.0001$ ). The most common sources of information for nurses were written materials (42.6%), nursing school education (38.6%) and health professionals (37.6%). Television programs (56.1%), written material (38.3%) and health workers (35.6%) were the most frequent sources of information for teachers. However, 93.4% of the nurses and 98.2% of the teachers mentioned that they need more information about BSE.

A significantly greater percentage of nurses (69.3%) than teachers (46.7%) knew the correct timing of BSE for women with regular menstruation;  $\chi^2 = 9.167$ ,  $p = 0.002$ . However, nurses (20.4%) and teachers (24.6%) did not differ in their knowledge about the timing of BSE for women with irregular menstruations;  $\chi^2 = 0.420$ ,  $p = 0.517$ . A significantly greater percentage of nurses (85.6%) than teachers (73.6%) said that they had knowledge about BSE;  $\chi^2 = 3.908$ ,  $p = 0.03$ . A significantly greater percentage of nurses (22.5%) than teachers (9.4%) gave correct answers to the question about the position for BSE;  $\chi^2 = 3.893$ ,  $p = 0.048$ . None of the participants from either group answered the question about the technique for BSE correctly.

#### **Attitude on Breast Self-Examination**

In a study performed in Slovenia on Midwifery student's attitude towards Breast Self Examination, it was detected that among the first-year students, 13 were familiar with BSE, while among the third-year students all knew how to perform it. In each of the groups, 19 of the students performed BSE. However, only 5 of the first-year students performed BSE regularly, while among the third-year students, 13 performed it regularly (Plesnicar, Golicnik & Kralj, 2004). The study showed that female midwifery students have a favorable attitude toward BSE. Of importance is that their specific three-year education enhances this attitude (Plesnicar et al., 2004).

In a study done on Qatari women on their knowledge attitude and practice on breast self- examination, majority of the Qatari women agreed that breast cancer is the most common cancer in women (70.3%). It was observed that

most of the women with higher education correctly identified that BSE is good in finding lumps (64.9%), and unattended lumps will turn into cancer (72.1%), mammography can show a lump before doing BSE or CBE (68.1%), and women should go for mammogram at certain intervals (57.1%) (Bener, Ayub, Kakil & Ibrahim, 2007).

Despite having a sufficient level of knowledge about breast cancer, results confirm low breast cancer screening in Qatari women; BSE (24.9%), CBE (23.3%), and mammography (22.5%). Seventy-two percent of Qatari women thought that BSE is easy to learn and 63.1% agreed to have CBE by a doctor, but most of them were afraid (63.5%) of having mammography tests (Bener et al., 2007).

It has been reported that nurses and female health care workers have positive attitudes towards early detection of breast cancer (Seif & Aziz, 2000; Haji-Mahmoodi, Montazeri, Jarvandi, Ebrahimi, Haghghat, & Harirchi, 2002). Jarvandi, Montazeri, Harirchi and Kazemnejad (2002) stated that most teachers feel themselves at risk of breast cancer. Because of this, they perform BSE routinely. In the present study, both groups had positive attitudes to BSE and were convinced of its value for early diagnosis of breast cancer. Our findings showed that both groups cared about BSE. Another finding supporting this was the low ratio of average factor points in both nurses and teachers.

Interestingly, the mean score on the “Fear of breast cancer” factor was higher among nurses than teachers. This may be explained by the nurses' working environment, in which they take care of patients with breast cancer.

According to Okobia, Bunker, Okonofua and Osime (2006) studies there was an indication of positive medical help-seeking behavior as majority of participants indicated visiting the doctor as the best approach to breast cancer care. Only 82 (8.2%) indicated visiting alternative health practitioners for breast cancer care. In terms of practice, only 349 participants (34.9%) practice BSE; the source of information about BSE was from the doctors' offices in 91 participants (21.1%), leaflets in 117 (27.1%), televisions in 134 (31.0%), churches/religious organizations in 35 (8.1%), feminist organizations in 29 participants (6.7%) and Nigerian Cancer Society programmes in 26 participants (6.0%). Only 91 participants (9.1%) had clinical breast examination (CBE) in the past year. The main reasons advanced for not having clinical breast examination (CBE) include not having a breast problem in majority of the participants (568, 62.5%) and being unaware of the need for CBE in 293 participants (32.2%)

### **Practice of Breast Self-Examination**

Recent studies have reported that women who carefully examined their breasts could find small masses of breast cancer and their prognosis became better. In a study carried out by Philip et al., 1996 54.0% of 304 patients with newly diagnosed breast cancer claimed to practice BSE (Philip, Harris, Flaherty, Joslin, 1986). In this study, it was found that those who performed BSE had reported their symptoms to health personnel sooner than the other subjects. In addition, in a meta-analysis of 12 studies including the study mentioned above, Hill et al. reported that there was good evidence of the benefit of encouraging women to practice BSE (Hill, White & Jolley, 1988).

The survey revealed that there is wide gap between knowledge and practice of BSE. Similar studies have documented this gap in knowledge and practice of BSE. In a study conducted by Chie et al in Taiwan, they found out that only 8.4% of 3040 randomized sampled women had been performing BSE monthly (Chie, Cheng, Fu & Yen, 1993). In a two series study carried out in İzmir by Aydemir et al., (2001) they first found out that the level of knowledge of BSE was 24.5% while the level of practice was found to be 1.5%. In their second study, the percentage of women who knew BSE was 53.7% while 39.0% were performing it. Indeed, the ratios that have been found in the latter are much greater than either in the former. The findings clearly demonstrate that practice of breast self- examination is poor in the study population and is consistent with other studies in Nigeria (Uche, 1999; Nwagbo & Akpala, 1996).

In Balogun and Owoaje's (2005) study on female traders at Ibadan it was reported that only fifty-one (18.1%) of the traders practiced breast self-examination. The practice was highest amongst those aged 50-59 years and lowest for those aged less than 30 years. The practice of breast self- examination was reportedly higher among women who had no formal education and lowest amongst those with primary education.

Kayode, et al. (2005) reported in their study that one hundred and fifty-five (45.5%) of the respondents strongly agreed that it is highly desirable to examine the breasts monthly, 125 (36.7%) agreed, 38 (11.1%) were undecided, 14 (4.1%) disagreed and 9 (2.6%) strongly disagreed. More than half of the respondents, 190 (55.7%) strongly disagreed that breast self-examination is very

useful to detect breast swellings, 110 (32.3%) disagreed, 25 (7.3%) were undecided, 9 (2.6%) agreed and 7 (2.1%) strongly agreed (Kayode et al., 2005).

One hundred and eighty-seven (54.8%) of the respondents had done BSE before while 154 (45.2%) had never done it. One hundred and sixty (49.0%) of the respondents who knew about the procedure were currently doing it while 166 (50.9%) were not. One hundred and fifteen (71.8%) of the respondents who were doing BSE did it once monthly, 20 (12.5%) indicated three monthly, 5 (3.1%) twice yearly and 20 (12.5%) once a year (Kayode, et al., 2005).

It is reported that the ratio practicing BSE is low in teachers and health professionals (Jarvandi, et al., 2002). Nurses present with a BSE practice ratio between 72.1% and 93%, increasing with age (Chong, Krishnan, Hong, Swash, 2002; Budden, 1998; Haji-Mahmoodi, Montazeri, Jarvandi, Ebrahimi, Haghghat, & Harirchi,2002). As expected, BSE practice among nurses was higher in this study ( $p = 0.012$ ). In contrast to the findings of previous studies, nurses started BSE earlier in our group. An explanation may be that they began to receive information about BSE during nursing education.

In this study, more than half the nurses and teachers were performing BSE with appropriate timing. Consistent with our results, the timing of BSE was correct in 46% of the nurses who performed BSE monthly, as showed by Budden (1998). Here, the similarity in BSE practice between nurses and non-health care personnel should be considered. The teachers were more sensitive about BSE, possibly because of their age group, in which they are more likely to develop breast cancer. Jarvandi et al., (2002) found that 6% of Iranian teachers perform

BSE regularly. The frequency of BSE in our groups was also low during the past year.

Heyman et al., (1991) mentioned that 99% of nurses are self-confident about BSE, even though only 26% used the correct technique. In addition, Seif and Aziz (2001) reported that the BSE technique of working women was positively altered by training. In our study, the nurses were convinced that they use the correct technique and can identify masses. On the other hand, neither of the groups performed BSE in the correct position. One surprising finding was that almost all participants performed BSE with the wrong technique. It is interesting to note that even the nurses made serious mistakes in BSE, although they were self-confident about their technique.

The incomplete knowledge of the nurses is important because 40% of them are the primary information sources for patients (Clarke & Sandler, 1989). Budden (1998) also reported that 77% of nurses relied on themselves to teach BSE but only 19% could teach BSE properly. Our study also revealed that nurses play their defined role in the community and teach BSE.

### **The Breast Self- Examination Concept**

Breast Self Examination refers to a woman being aware of the normal look and feel of her breasts and looking for changes in size or shape of the breasts, the presence of lumps, skin dimpling, redness, discharge or unusual pain (American Cancer Society, 2007; Mason & White, 2008; Cancer Association of South Africa, 2006). Many of the cancer organizations consider Breast Self Examination as an important early detection method as it allows women to



become familiar with their breasts and learn what is normal and abnormal (The Breast Cancer Advocacy Coalition's, 2008; American Cancer Society, 2007; WHO, 2008). For younger women, this is often the only method that is available to them to detect abnormal changes at an early stage due to the inaccuracy and ineffectiveness of other screening tests (Crossing & Manaszewicz, 2003), due to greater breast tissue density (Carney, Miglioretti, Yankaskas, Kerlikowske, Rosenberg & Rutter, 2003; Rosenberg & Levy-Schwartz, 2003).

Regular Breast Self Examination is a cost-effective, non-invasive, convenient, private and simple method (Ozturk, Engin, Kisioglu, & Yilmazer, 2000; Ku, 2004). It has been associated with a reduction in primary tumour size and, consequently, more conservative treatment that requires no specific equipment (Kurebayashi, 1994; Ozturk et al, 2000; Hill, White, Jolley, & Mapperson, 1988). Despite these benefits, only 18 per cent to 36 per cent of women actually perform Breast Self Examination (Ashton, Karnilowicz & Fooks, 2001).

Much of the research surrounding BSE behaviour has examined BSE behaviour in the population considered at highest risk for breast cancer (women over 45 years of age). Few studies have examined BSE behaviors in college-aged women. It is important to increase regular BSE practice in this population so that they may familiarize themselves with their healthy breasts, which will assist them in identifying any abnormalities as they age (Budden, 1995). Though it is relatively uncommon, breast cancer can occur in young women, thus regular

BSEs may help them detect cancer at an early stage, just as they do in older women who are at objectively greater risk.

Although research suggests that most women are aware that BSEs are a positive health behavior that is recommended by officials, many women do not conduct BSEs on a regular basis. Many of the intervention studies aim to increase BSE behavior in women by providing them with information about breast cancer, the importance of BSEs, and the proper way to conduct BSEs, but few seek to discuss the underlying cognitive and emotional reasons why women fail to engage in this healthy behavior. MI has been adapted in the public health setting for many healthy behaviors including medication adherence, diet, and increasing physical activity, and has been demonstrated to be effective in several studies in increasing these behaviors (Miller & Rollnick, 2002).

The current study compared a psycho educational intervention (PE) with an MI component (PE/MI group) to a no-treatment control group. During the MI session with a trained clinician, individuals discussed benefits as well as barriers that result from conducting regular BSEs in an effort to resolve ambivalence about the behavior and take steps toward behavior change. Individuals also discussed fears surrounding contracting breast cancer, their thoughts about the perceived severity of the disease, as well as facts on susceptibility. The trained clinician used directive interviewing to elicit change-related statements from the individual in a non-confrontational manner. Within an MI framework, the trained clinician worked with participants to explore discrepancies between the participants' present behaviours and their own goals and values to encourage

them to consider new perspectives of change and resolve ambivalence regarding BSE.

Breast self-examination (BSE) is an important screening measure for detecting breast cancer. There is evidence that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment and to yield a better survival rate (American Cancer Society, 2000b). For example, in a randomized, controlled assessment of the effectiveness of international screening programs for breast cancer in Scandinavian countries, it was found that mortality had fallen by 31% after 7 years for women aged 40–74 at the beginning of the trial (Nystrom, 2000). Unfortunately, despite the benefits of regular BSE, few women actually examine themselves; in fact, a majority do not even know how to do a BSE (Stamler, Thomas, & Lafreniere, 2000; Al-Abadi, 2001).

Regular self-examination among diverse population has been associated with many factors. Among them are the following: older age (McPhee, Stewart, Brock, Bird, Jenkins & Pham, 1997; Ajayi & Adebamowo, 1999; Smiley, McMillan, Johnson, Ojeda, 2000); greater knowledge of BSE and breast cancer (Savage & Clarke, 1996; Champion & Menon, 1997; Budden, 1998; Ajayi & Adebamowo, 1999; Smiley et al., 2000); availability of health insurance (McPhee et al., 1997; Al-Abadi, 2001); a family history of breast cancer marriage and beliefs about breast cancer and BSE (Budden, 1998; and Al-Abadi, 2001).

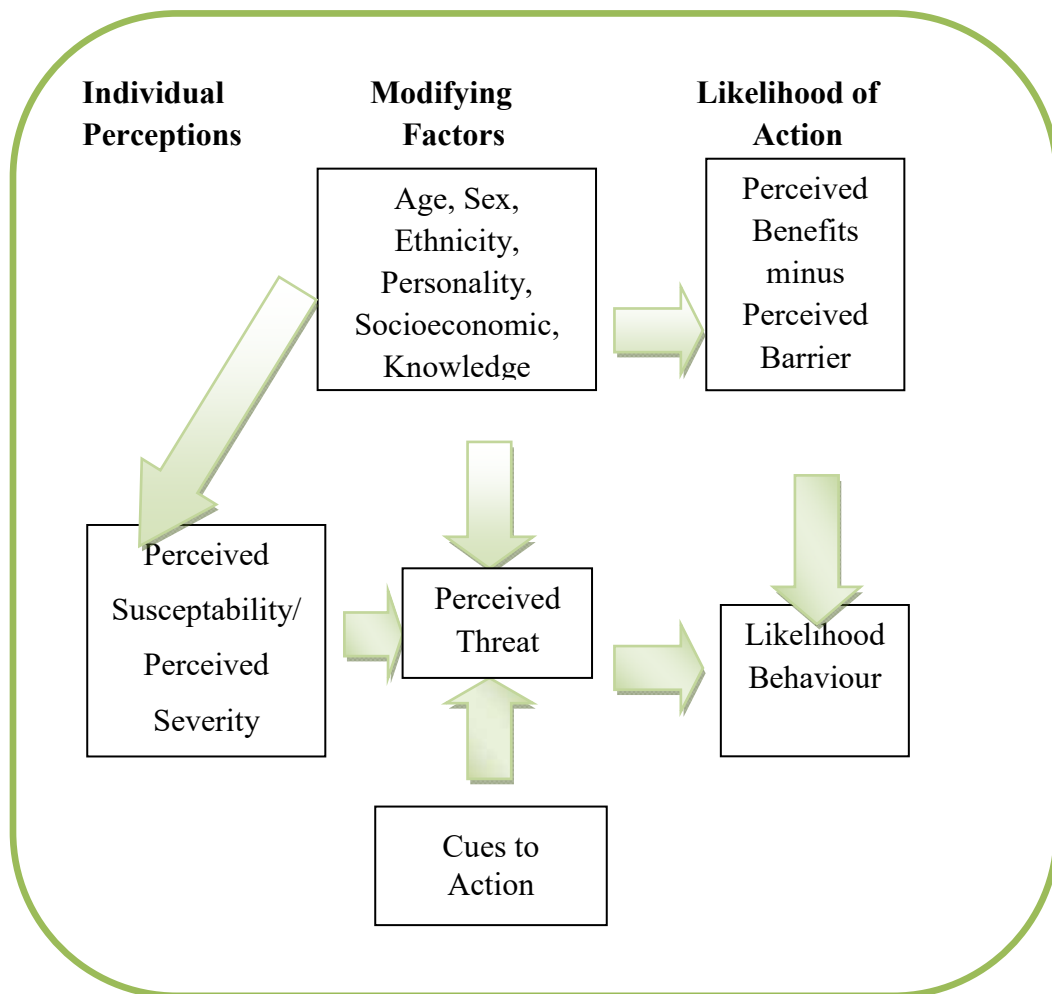
## **The Health Belief Model**

The Health Belief Model (HBM) has been used in several studies as a theoretical framework to study BSE and other breast cancer detection behaviors (Hoeman & Ku, 1996; Barron, Houfek & Foxall, 1997; Mikhail & Petro-Nustas, 2001; Al-Abadi, 2001), and it is the conceptual framework for this study. The model stipulates that health-related behavior is influenced by a person's perception of the threat posed by a health problem and by the value associated with his or her action to reduce that threat (Becker, 1978).

As initially introduced by Hochbaum, Leventhal, Kegeles and Rosenstock in the 1950s, the HBM included the following four concepts: (1) perceived personal exposure to a health condition (susceptibility); (2) perceived personal harm from the condition (seriousness); (3) perceived positive attributes of an action (benefits); and (4) perceived negative aspects related to an action (barriers) (Rosenstock, 1966). Later, Rosenstock, Strecher & Becker (1988) identified the following additional concepts: health motivation, which is defined as the belief and degree of interest in general health; and confidence, which is the conviction that the individual has that an action will achieve a desirable outcome.

In addition, a cue to action (stimulus) is needed to trigger protective behavior. Cues to action could be internal, such as perception of a body state, or external, such as the influence of mass media. Cues, along with demographic and structural variables, may trigger an individual's perception of susceptibility and seriousness and in turn may influence his or her behavior with regard to the desired practice.

According to the HBM, therefore, a woman who perceives that she is susceptible to breast cancer and that breast cancer is a serious disease would be more likely to perform regular breast examinations. Similarly, a woman who perceives more benefits of and fewer barriers to BSE would be more likely to practice BSE. A woman who has an internal cue (body perception) or who has been exposed to an external cue (e.g., the positive influence of a health care provider or the media) would also opt for BSE, as would a woman who wants to improve her health and who is confident of positive results (Champion, 1993).



**Figure 1: Health Belief Model**

Source: Stretcher & Rosenstock (1997)

## **The Beginning of Breast Self-Examinations**

After reviewing the literature, the origination of BSE was unable to be determined. The earliest indication of BSE was found through the American Cancer Society. In the 1930's, cancer activists encouraged the ideology of women to examine their own breast on a regular basis in search of suspicious lumps. Self-breast exams (SBE), as they were referred to in the literature, were thought of as awkward because they did not involve any technology and were often promoted as a specific and technical detection procedure. Because of lack of technical use, this procedure was reflected as more of a social change than a biomedical or a technical progress (Aronowitz, 2007). This phenomenon of self-breast exams contributed to the notion that individuals should bear the responsibility for detecting breast cancer. On the other hand, SBE was also thought of as welcoming to clinicians because it kept the privacy of women by not having to involve others, especially male physicians.

According to Aronowitz (2007), in 1977 Phillip Strax, one of the earliest advocates of screening mammography, noted that despite the literature and films on how to perform a self breast exam, there was little net result of any impact concerning breast cancer. The Gallup poll indicated only a small percentage of women were actually exposed to both the literature and films. Most women admitted not understanding this routine, feeling uncomfortable about examining their breasts themselves, anxious about the study itself or just simply exhibited the preference of not being bothered.

## **Breast Self-Examination for Early Detection of Breast Cancer**

Apart from the highly increased risk of getting breast cancer related to rare mutations, for example BRCA1 and BRCA2 (Hofmann, 2000; Yang, 1999) few risk factors of major importance have been identified. The risk is increased for female relatives of women with breast cancer (Calle 1993; Magnusson, 1998) and it also increases with age. These risk factors cannot be modified but women at high genetic risk sometimes undergo prophylactic bilateral mastectomy to prevent development of breast cancer. Women might potentially benefit from early detection of breast cancer by screening. Survival of women with cancers detected by screening using mammography is very high, for example 97% in Malmo after 10 years of follow up (Janzon, 1991). Even within the same stage of the cancer, survival is higher in screen-detected cancers than in cancers detected clinically (Moody-Ayers, 2000). However, screen-detected cancers include some cancers that have a favourable prognosis. They may be slow growing and some of them might not have developed into invasive cancer if left alone without treatment (Feig, 2000). Hence, some degree of over diagnosis and overtreatment is an inevitable consequence of screening (Welch, 2004). The intuitively attractive principle of detecting cancers early therefore needs to be tested in systematic reviews of rigorously conducted randomised trials.

A systematic review of screening with mammography showed that for every 2000 women invited for screening throughout 10 years, one will have her life prolonged (Gøtzsche, 2006). In addition, 10 healthy women, who would not have been diagnosed if there had not been screening, will be diagnosed as breast

cancer patients and will be treated unnecessarily. It is thus not clear whether screening with mammography does more good than harm.

Screening for breast cancer by regular self-examination of the health professional might be a possible alternative or addition to mammographic screening. Such screening might lead to less harm than mammographic screening since slow-growing tumours and tumours that do not develop into invasive cancer might be detected less often. A further advantage is that these methods do not require any technical equipment and can be performed by the women themselves if properly trained (Baines, 1986) or by general practitioners or nurses. Based on an individual assessment of benefits and risks some cancer societies and health authorities recommend regular breast self-examination and regular professional examination. It seems unclear, however, whether such examinations can reduce breast cancer mortality and whether they do more good than harm (Russia, 1999; Shanghai, 2002).

The best way to prevent people from dying of breast cancer is by promoting early detection. Early detection is defined by finding cancers that are already present. According to Love (2004) “That’s hardly prevention; Prevention indicates to stop the cancer before they happen in the first place” (p.241). But how beneficial are BSE efforts to stop cancer before it happens? Secginli and Nahcivan reported the outcome of the effectiveness of BSE in a case study that was performed in their 2011 article. That study showcased the impact of increased proficiency and frequency of BSE 197 women who participated in the study. Ninety-seven of the women were in the intervention group and 93 were in the



control group. Forty-four percent reported being in excellent health and 56% reported being in fair health. There were no significant differences between participant's characteristics at baseline among the two groups (age, marital status, and years of education, employment status, income level, having children or health insurance coverage). The women in the intervention group were compared to the women in the control group on performing BSE's at a three month and a six month follow-up. There was a significant difference among the two groups in both proficiency and performance of BSE. At the three month follow-up, initiation to perform BSE's had increased by 36.1% for women in the intervention group whereas women in the control group had increased initiation by 11.8%. At the six month follow-up 26.8 % of women in the intervention group and 9.7% of women the control group performed BSE's. At the three month benchmark after the program, women in the intervention group were four times more likely to perform regular BSE's than the women in the control group; at the six month benchmark women in the intervention group were three times more likely to perform regular BSE than the women in the control group. The overall outcome of the study was successful in increasing BSE rates among women and in their enhanced ability to find lumps (Secginli & Nahcivan, 2011).

### **Studies on Breast Self-Examination**

A descriptive study was conducted to assess the knowledge of breast self-exams (BSE) via pre-tests and post-tests in older African-African women (> 60) at an initial session (time 1), and then again at a follow-up session (time 2) two months later. A sample of 57 older African-American women living in inner city

apartment buildings participated in the study. there were significant differences between pre-test time 1 and post-test time 1 ( $p = .000$ ) and pre-test time 2 and post-test time 2 ( $p = .000$ ). In addition, a significant difference was detected between pre-test time 1 and pre-test time 2 ( $p = .039$ ). Additionally, a content analysis revealed what factors would influence older African-American women to continue to perform BSE in the future. Providing BSE education to older African-American women may be useful in decreasing mortality rates for breast cancer (Jennings-Sanders, 2007).

The study conducted on knowledge, attitudes, regarding breast cancer detection practices. It was found that out of 57 south Asian women, 12% of the participants practiced breast self examination monthly. 49% had undergone at least one clinical breast examination during their lives and 47% had never had a mammogram. The majority (54%) of women have lack of knowledge about breast cancer. while 21% of the women said detecting cancer early was important only 5% reported that cancer could be cured (Choudhary, Srivastava & Fitch, 1998)

Clark, Saute and Totechi (2000) study conducted on adolescent girls' knowledge and attitudes towards breast self examination by using quasi experimental method. They selected sample from schools participating in an education program provided by a regional health education center. The sample consisted of 137 adolescent girls. Findings suggest that a one-hour lesson can improve knowledge and attitudes of adolescent girls with respect to breast self examination and early cancer detection.

Budden (1999) study conducted a descriptive survey to determine health beliefs, attitudes, knowledge and performance over the first year of a registered nursing degree program towards breast self examination. The convenience sample consisted of female students ages 40 years or younger who were surveyed at the beginning (n = 105) and (n = 71) of the first year of the course. Approximately one-third of students reported performing breast self examination monthly. There is no statistically significant differences were found between students pre-test and post-test breast self examination variables.

Jebbin and Adotey (2004) study was conducted on attitudes, knowledge and practice of breast self-examination (BSE) in Port Harcourt, Nigeria. A written questionnaire was distributed to 200 women from different walks of life in Port Harcourt to assess their attitudes to, knowledge and practice of BSE. Their responses were then collated and analyzed. Ninety-eight percent of the respondents had formal education, majority having obtained tertiary education. Eighty-five point five percent of them had heard of BSE but 39.0% practised BSE only occasionally, while 24.0% did not practise it at all. Among 76 health workers who participated in the study, 60.0% of doctors and 53.7% of nurses practised BSE only occasionally. Only one doctor could describe how to perform BSE correctly. The news media, nurses and physicians were the commonest sources of information on BSE. Most women in Port Harcourt, though aware of BSE and its usefulness never practise it. Those who care to practise it are ignorant of how to correctly do it. There is need for a vigorous health education programme on this

subject for our women. It is hoped that this will help to reduce the morbidity and mortality associated with carcinoma of the breast (Jebbin & Adotey, 2004)

The study conducted a survey to identify and describe self examination knowledge and practices of women. The sample consisted of 65 female whose ages ranged between 17 and 45 years. fewer than half (44%) of these participants indicated that they would classify their breast self examination as regular, only 27% of the participants indicated that they had examined their breast from 9 to 12 months in the previous 12 months, which would normally be considered regular breast self examination (Budden, 1995).

Jhansi Rani, and, Swarna (2006) pre-experimental study was conducted to assess the effectiveness of planned teaching programme regarding breast self examination among 50 post graduate students in padmavati Mahila university at Tirupati. Most of the students were in the age group of 24-26 years and Hindus. They were studying in various disciplines i.e. m.sc. (22%), journalism (16%), biochemistry (18%) M.A Telugu (14%), M.A English (14%), and others MBA, BC (16%). pre-test and post test data was collected by self administered questionnaire. there was significant ( $p < 0.01$ ) gain in knowledge of postgraduate students after planned teaching programme. pre-test mean score was 12.38 (25.26%) while the post test mean score was 39.78 (81.78%).

A cross sectional study was conducted on attitudes and knowledge of breast self-examination among Austrian women's in Australia. , 975 healthy women in an Austria-wide population were asked about their knowledge of breast self-examination (BS) and mammography, and their cancer histories.92% of the

women knew BSE but only 31% practiced it thoroughly. Women living in rural communities with a life companion and younger women were more likely to practice BSE. Women who had family histories of cancer, especially older women, performed BSE significantly more often. There was a trend towards increasing BSE with increasing personal perception of the risk of cancer, especially among older women. The study showed a positive association between BSE and screening mammography. Although knowledge of BSE is widespread, it is actually practiced by only one third of women. Older women but not young women carry out BSE significantly more often when they have family histories of cancer. Information campaigns should target specific groups and emphasize the effectiveness of properly done BSE (Janda, obermair, Waldhoer & Vutuc, 2000)

Milaat (2000) study was conducted on knowledge of secondary-school female students on breast cancer and breast self-examination in Jeddah, Saudi Arabia. A self-administered questionnaire was given to 6380 female secondary-school students (mean age = 18.1 years) in Jeddah to identify their knowledge of breast cancer and attitude towards breast self-examination (BSE). Knowledge of risk factors and presentation was very low. Over 80% of students failed to answer 50% of the questions correctly. A higher knowledge level was associated with older age, marriage and having children. Also students who had undergone mammography, had been exposed to breast surgery or had a positive family history of breast cancer showed significantly higher knowledge levels. Only 39.6% reported ever hearing of BSE and only 14.4% and 7.1% respectively knew

the correct frequency and timing. However, 82.4% had a positive attitude towards learning BSE (Milaat, 2000).

A study was conducted on knowledge and attitudes of breast self examination in a group of women in Shiraz, southern Iran. The median (interquartile range (iqr) age of participants was 38.5 (14) years. of the 300 studied women, 283 (94.3%) were married; 160 (53.3%) performed BSE 9 (5.6%) of whom did BSE using a correct method and at an appropriate time. of 140 non-performers, 74 (52.9%) did not know how to do BSE; the remaining women did not do BSE for fear of being found positive for cancer or did not care about it. Those who performed BSE learned it from medical personnel (n=72, 49.4%), their relatives, and TV, radio, books, journals and pamphlets. of those who performed BSE, 9 (5.6%) found an abnormal examination; 6 (3.8%) were found positive after further evaluation. the likelihood of performing BSE was not associated with educational level, marital status, age of participant, or how the participant learned about BSE : considering that 46.7% of participants did not perform BSE and that almost all of those who did perform BSE did it incorrectly and taking into account that a lack of knowledge on how to perform BSE was the main reason why most non-performers did not examine themselves establishing educational programmes to teach women at risk may help in the early diagnosis of breast cancer (Simi & Yhabibzadeh, 2009)

Two large, population-based randomised trials investigating breast self-examination as a general screening method were included (Russia, 1999; Shanghai, 2002). Final results of the Shanghai study were published in 2002 and

the Russian study in 2003. The Russian Federation/WHO study recruited women in St Petersburg and Moscow. Due to lack of follow up and methodological problems in the Moscow branch of the study we included only data from St Petersburg, which was published in English. The third included study was a large, population-based trial investigating a combination of screening by clinical examination of the breast combined with instruction in the technique of breast self-examination. This study was conducted in the capital Manila of The Philippines (Philippines, 2006). Because of poor compliance with the follow up of screen-positive women the active intervention was discontinued after completion of the first screening round.

The search also retrieved a proposed or ongoing population-based, cluster randomised study in the Trivandrum district of Kerala, India (India, 1998). The study is investigating whether clinical breast examination plus teaching of self-examination and visual inspection of the cervix, done by trained female health workers, will lead to a reduction in mortality.

The objective of the study was to test the feasibility of conducting a randomised trial of clinical breast examination and breast self-examination instruction in a defined geographical area. Because this study investigates the prevalence of breast cancer in Cairo it has not been included. The sixth trial is a randomised trial of 28,788 women (Turner, 1984). In this trial, a considerable number of women (6.8%) were excluded from the intervention group on the basis that they had a previous diagnosis of breast cancer. There were no exclusions from the control group. Furthermore, there were no data on breast cancer

mortality or overall mortality but only on detection rates. The follow-up time was short, there were no data on compliance and the intervention consisted only of a booklet about breast self-examination that was sent twice to the intervention group. Risk of bias in included studies. Three studies have been included in this review. Two of these studies assessed regular breast self-examination versus no regular breast self-examination (Russia, 1999; Shanghai, 2002) and one (Philippines, 2006) assessed a combination of clinical breast examination and instruction for breast self-examination versus no regular breast self-examination.

Women aged 40 to 64 years were invited to participate. In St Petersburg, 18 district polyclinics and 10 large enterprise healthcare services were randomized separately at WHO, Geneva, using a table of random sampling numbers, which ensured that there were 9 polyclinics and 5 enterprises in each group. According to one publication (Semiglazov, 1992) a total of 120,310 women were randomised in St Petersburg from 1985 to 1989: 60,221 women to the screening group and 60,089 to the control group. According to a later publication (Semiglazov, 1999) the numbers were 122,471 with 57,712 randomised to the screening group and 64,759 to the control group. This discrepancy has not been explained. Polyclinics with 'occupational hazards' and previously conducted breast self-examination education programs were excluded. Screening by breast self-examination had not been promoted in the Russian Federation before the implementation of the study. Because of the discrepancies in numbers, the outcome of the randomisation process is uncertain.



In Moscow, 237 factories were randomised; factories with known occupational hazards' were excluded. The first 99 factories were randomised using the fourth digit of their telephone number as discriminator. By casting lots, 46 factories with odd digits were assigned to the study group and 53 factories with even digits to the control group. The remaining 138 factories were randomized at WHO, using tables of random sampling numbers. It is not clear whether the allocation concealment was adequate in the first phase of the Moscow study.

Furthermore, the number of women

randomised seems not to have been published and the Moscow branch of the study was not mentioned in the most recent paper published in English (Semiglazov, 1999), which suggests that the Moscow branch of the study might have been abandoned. Baseline comparability between the study group and the control group was not documented for either substudy.

Women with previous breast cancer or other malignancies were excluded in both cities, but numbers were not stated. Control group women with a history of breast cancer were not identified initially but were supposed to be identified through the routine follow-up procedures of the study. Women who migrated were lost from analysis in both cities; no data are given for numbers and their allocation group. The investigators stated that this would not bias the trial but considering the major socioeconomic changes Russia was facing during the trial period this assumption may not be tenable.

In St Petersburg, trained nurses or doctors taught breast self-examination to groups of 5 to 20 women at a time, including demonstration of the technique on

one of the women. Women answered a questionnaire about demographic data and risk factors and received a leaflet and a self-examination follow-up calendar. Calendars were renewed and the entries reviewed annually. The calendars were based on the method developed by Gastrin, encouraging the women to perform self-examination once a month. This included inspection in a mirror in a standard position with arms above the head; palpation both in a standing and lying position, systematically covering the entire breast and axilla; and squeezing the nipple to detect discharge.

In a study by Alsaif (2004), 66% of the subjects are doing BSE regularly. Only 7% of the subjects were having positive family history of BC and 70% of them showed regular menstrual cycle. Out of the total sample, 16 subjects reported pain in their breasts. However, more than 40% of the subjects learned facts regarding BSE in their college curriculum. A chi-square was used to test the association of BSE practice with age, level in nursing college, BMI, marital status, family income and family history of BC, regular menstrual cycle and feeling pain in breasts. The variables, age (above 21-years) and higher level in nursing college (level 4 and higher) were significantly associated ( $P < 0.001$ ) with the practice of BSE. Sixty to eighty percent of subjects believe that, presence of masses in the breasts, family history of BC, nipple discharge, frequent mammograms and smoking are the causing factors for BC. Thirty-five to 55% of subjects believe that, usage of contraceptives, wearing nylon bra, using breast creams, direct sun exposure, obesity and ovarian pain are the BC causing factors. In this present study sample, pregnancy at early age and breast feedings are the

least believed to be causative factors of BC. The significant correlation was seen between nipple discharge and BSE practice. The most frequently endorsed steps were examining breasts in front of a mirror or during bath, examining breasts while lying down, and feeling for lumps, hard knots, nipple discharge, or breast thickening. The least frequently endorsed step was looking at breasts in the mirror with hands on thighs. Overall, the majority of subjects knew most of the recommended steps.

In Keeney (2012), breast cancer may be the oldest and the most infamous disease to occur in the female population. Physicians have struggled with breast cancer for thousands of years in search of its origins, ways to prevent it, and the most efficient ways of early detection of the disease. Various methods to effectively detect breast cancer have continued to surface throughout the years including current BSE recommendations. There still is no definite technique for the detection of breast cancer and currently women have no assurance of a 100% effective way of early detection. It is apparent that discrepancies women encounter surrounding BSE, and early detection continue to be of concern. After reviewing the breast cancer detection literature, exploring historical data concerning breast cancer, and comparing the modern day perspectives concerning BSE, it is assumed that BSE as an early detection method for breast cancer may actually depend on the individual's discretion. Seventy percent of the articles proposed BSE was not an effective method for early detection; primarily because women are not properly taught what to feel for when performing the technique. According to Love (2010), women did not know what exactly they were looking

for as far as tissue mass when it comes to BSE. Interestingly, Love also noted women are learning how to perform BSE from their gynecologist, but it has been stated that most gynecologists have not been formally trained on how to perform BSE (p.247). In addition, the literature implied that some women who perform BSE are causing more harm than good to themselves by performing such a procedure because it is thought to be a waste of time. For example, one recent study found that women taught to do BSE did not reduce their chances of dying of breast cancer. In fact the study concluded that BSE might even cause more of a burden to women because of the anxiety and stress that some women experience. Additionally medical systems also accrue the expense for the increase in biopsies and tests performed to check for harmless lumps and bumps (Health.com, 2011). However, 30% of the literature reviewed advocated for the need of BSE. For example, Nancy Binker, CEO of Susan G. Komen for the Cure, stated that despite the U.S. Preventive Services Task Force recommendations regarding BSE, one fact remains undisputed, screening saves lives (Binker, 2009). She is an avid supporter of BSE because both she and her sister, Susan G. Komen, were diagnosed with breast cancer in their early thirties. Nancy refers to her life being saved by early detection methods but unfortunately, her sister, Susan, who did not have the opportunity to engage in early detection, died. Nancy noted that BSE can contribute to self-awareness and could save lives regardless of the scrutiny this technique of early detection has been subjected to. Twenty percent of the literature advocating BSE furthermore revealed that women in other countries were more adamant about performing BSE. The literature detailing the outcome

and effectiveness of BSE in women from foreign countries showed that most of the women expressed self-efficacy and empowerment when they were introduced to the BSE method. It is important to note that women in those countries had little or no access to health care providers. After reviewing the literature and comparing opposing viewpoints concerning BSE, it is concluded that this controversial issue will continue to be a central concern for both women and health experts for years to come.

In 1977, a study by Stillman (1977), investigated the nature of women's health beliefs about breast cancer and breast self-exams. A questionnaire was given to 122 women. Ninety-seven percent scored high in perceived benefits of BSE's in decreasing the threat of breast cancer. In the category of perceived susceptibility to breast cancer, 87% of the women (106) thought that they were vulnerable to the disease. Forty percent of the women practiced BSE on a monthly basis but 20% who had high beliefs that they would develop breast cancer did not practice BSE. The majority of the women who did practice BSE admitted their uncertainty of accurately detecting abnormalities. Another group of 20 women that did have a history of breast lumps or cancer surgery, however, did have higher susceptibility beliefs, a higher rate of practicing BSE and were confident in their ability to detect abnormalities in the breast (Stillman, 1977).

Even though BSE seemed to give women a sense of empowerment the question still remained: Are breast self-examinations a useful method in detecting breast cancers that will decrease mortality rates among women? According to a research study article, *Surveillance Epidemiology and end results* (2010) only

well performed randomized clinical trial of BSE to be completed took place in Shanghai. In this clinical trial, 266,064 women were given instructions regarding BSE reinforcement and encouragement, or instructions on how to prevent lower back pain. After a 10-11 year follow-up, 135 breast cancer deaths occurred in the group that received information regarding prevention of lower back pain, 131 breast cancer deaths occurred in the group that was given instructions regarding BSE. Although the numbers of breast cancers deaths between the two groups were not significant and virtually equal, the group that received information instructions on BSE reported having more biopsies and more benign lesions as opposed to the group that received instructions concerning lower back pain. Love (2004) explains that BSE seems to alienate women from their breast as opposed to developing a comfortable state with one's own breast. Her recommendation of BSE is that although they have been advocated to women throughout decades to examine the breast at the same time each month in speculation of lumps, she argues that instead of only once a month women should check their breasts at different times of the month to get to know how their breasts feel at all times. Love notes she feels that her method would reinforce self-knowledge of one's own breasts and in addition, eliminate repetitiveness of having to check the breast on a monthly schedule (p. 37).

The American Cancer Society recommends that women starting at the age of 20 perform monthly BSE to become familiar with their breasts and to understand what is normal so if something feels different, she can notify a doctor (ACS, 2010). Dr. Love's perceptions of formal BSE's that are regularly taught to

women are designed for women to hunt for negative results concerning her breasts. Love states that breast self-examination is a destructive method to define breast. However, Love acknowledged that 80 % of cancers not found on a mammography are found by the woman herself. The controversy surrounding this scenario is that the women did not actually perform breast self-examination based off the methods and recommendations that have been taught by the American Cancer Society (p. 38).

In Olayiwola and Abolade (2012), the age of the respondents ranged from 21 to 45 years with a mean 28 years ( $\pm 6.2$ ). Thirty-one respondents were between 26 - 30 years of age, majority (80%) of the respondents were Yoruba. Similarly, the educational profile revealed that a large proportion (43%) had National Certificate in Education (NCE) qualification, 46% were married and 65% were Christian. Olayiwola and Abolade (2012), found that 82% of the respondent were aware of breast self examination, and their major source of information is from radio and television (55%) and friends (25%). Only 22% had understanding of what BSE assessment is all about. Although 82% claimed to have examined their breast before but only 12% have the correct knowledge that it should be examined monthly and only 16% knew that it should start from 20 years of age. Furthermore, when asked about the benefits of performing BSE, only 22% understood that it helps in early detection of breast lump, and other described it as follow: 18% believed that it helps the individual to know the shape and size of her breasts, 36% described that it is only for cosmetics purpose while 24% did not have any idea of what it is. It showed that more than half (54%) of

the respondent had poor knowledge, a large proportion (48%) also had poor attitude and sixty-two demonstrated a poor practice.

The statistical testing further revealed that there exists no relationship between age of the respondents and their awareness ( $\chi^2 = 8.322$ ,  $p = 0.0800$  and  $df = 4$ ) and knowledge ( $\chi^2 = 14.501$ ;  $p = 0.264$  and  $df = 12$ ) of BSE. The participants were within the reproductive age, which means they are expected to be knowledgeable and practicing BSE. Findings from this study showed that there is a high level of awareness of breast self examination (82%) among the respondents and their major source of information are radio and television and friend (55%). Oluwatosin and Oladepo (2006) declared that there is a high awareness of BSE in their studies. Reason for this increased awareness may be due to the fact that there is increase sensitization and mass campaign about BSE in both the print and electronic media on daily basis. Moreover, all the respondents were teachers; this would have given them the opportunity of reading educational materials on BSE.

Oluwatosin and Oladepo (2006), asserted that it is important for individual women to perform breast self examination monthly so that she will become familiar with her own breasts. Findings from this study however, revealed that majority of the teachers (54%) had poor knowledge of breast self examination. This supports the earlier studies, Heidari, Mahmoudzadeh-Sagheb, and Sakhavar (2008) that reported that 75.8% of women had insufficient knowledge of BSE. This is however, contrary to (Odusanya & Tayo, 2001) which found out that nurses possessed adequate knowledge of BSE. Findings from this



study further showed that almost half (48%) of the respondent had negative attitude to-wards breast self examination, this is however, contrary to [10,14] who reported that respondents had a healthy attitude to breast cancer screening.

Furthermore findings from this study also showed that BSE was poorly practiced in this study population as revealed by 62% who did not practice BSE. This supports Kayode, Akande and Osagbemi (2005) who reported a low practice of BSE in their study. This is however; contrary to (Oduanya & Tayo, 2001) who re-ported in their studies, that majority of the respondents practiced BSE. Furthermore, findings from this study demonstrated that there is no significant relationship between age of the respondents and their awareness about breast self examination ( $X^2 = 8.322$ ,  $p = 0.0800$  and  $df = 4$ ) and knowledge ( $X^2 = 14.501$ ,  $p = 0.264$  and  $df = 8$ ). This means that the age of the respondents has nothing to do with their awareness and knowledge of breast self-examination.

### **Perceptions of Breast Self-Examination**

There is a significant difference in the perception of the risk and effect that such perception has on BSE between age groups (Johnson & Dickson-Swift, 2008). Older women who have a higher perception of risk are more likely to undertake regular BSE, whereas there is no correlation found between young women and perceived risk in association with BSE (Johnson & Dickson-Swift, 2008). This could be because it is well known by women that breast cancer risk increases with age and young women do not feel that they are at risk until they reach an older age. Therefore, they see no need to undertake regular Breast Self Examination.

Whilst mammography is not an accurate screening tool for young women it is important that young women are targeted for education programmes that provide information about what is normal and abnormal and that raise awareness (Baum, Saunders, & Meredith, 1994) as well as exploring their current knowledge (Vahabi, 2005). There is a significant lack of information and research that addresses young women's knowledge and perceived barriers to breast cancer information. Although some studies show that young women have high level of knowledge (Johnson & Dickson-Swift, 2008), the definition of young used for recruitment to these studies began at 40 years of age. Focusing on the younger end of those most at risk is common in breast cancer research (Siegel, Gluhoski, & Gorey, 1999; Dunn & Steginga, 2000), however, there is very little research exploring the knowledge of women under 40 years. A study by Friedman, Neff, Webb and Latham (1998), identified barriers to mammography use and found that younger women (identified as women at the younger end of those most at risk) cited factors such as being too busy as their reason for not utilizing this screening tool. Young women are not accessing or using breast cancer information. Generally it can be said that there is a distinct shortage of research examining breast cancer in young women. Despite some studies focusing on prognosis and diagnosis for young women (Kroman, Jensen, Wohlfahrt, Mouridsen, Andersen, & Melbye, 2000) there is little information available that covers knowledge and perceptions of the disease.

## **Challenges of Breast Cancer Screening**

In spite of the evidence supporting the effectiveness of early detection technology in breast cancer, women do not take advantage of this life-saving technology (Walker, Adam & Walker, 2004). In South Africa, the reason of women not taking this advantage could be that screening, particularly mammography, is very expensive, so very little has been carried out (Walker, Adam & Walker, 2004). Moreover, the Breast Cancer Advocacy Coalition (2008) argued that breast health services in South Africa are fragmented and not comprehensive. One of the contributing factors is that breast health and breast cancer are not regarded as public health priorities both nationally and provincially. Therefore, the coalition advocated for an accessible breast health service for all, specifically a comprehensive breast health service that is equitable, available, affordable and accessible to all women in South Africa.

## **Breast Self- Examination Controversy**

BSE remains the most controversial of commonly recommended strategies for breast cancer screening (Abdel-Fattah, Zaki, Bassili, El-Shazly & Tognoni, 2000). Although Breast Self Examination has been widely promoted, some researchers have been unable to find evidence that it reduces mortality from breast cancer (Thomas, Gao, Self, Allison, Tao, & Mahloch, 1997; Nekhlyudov & Fletcher, 2001). Data from the studies that were conducted in China (1997) and Russia (1993), found no and did not suggested any beneficial effect of Breast Self Examination in reducing breast cancer mortality. They, however, did suggest increased harm in terms of increased numbers of benign lesions identified and

increased number of biopsies performed. These findings led to the review in 2001 by the Canadian Task Force on Preventive Health Care (CTFPHC), which led to the recommendation that routine teaching of Breast Self Examination be excluded from the periodic health exam of women (Bexter & CTFPHC, 2001). Moreover, conclusion drawn was that programs to encourage Breast Self Examination, in the absence of mammography, would be unlikely to reduce mortality from breast cancer (Thomas, Gao, Ray, Wang, Allison, & Chen, 2002). Therefore, women who choose to practice BSE should be informed that its efficacy is unproven and that it may increase their chances of having a benign breast biopsy.

Rosolowich and Winnipeg (2006), mentioned that since the release of recommendations of Breast Self Examination by the CTFPHC, women have been confused about the value of regular Breast Self Examination. Some organizations and researchers advise that women should have breast awareness, be informed on the benefits as well as the limitations of BSE, and report any changes indicative of breast cancer (ACS, 2003; Nekhlyudov & Fletcher, 2001, Champion, 2003). American Cancer Society has changed its Breast Self Examination recommendations. Instead of a recommended breast cancer screening tool, the ACS (2008) now views BSE as an optional screening tool. Women who choose to do BSE should receive instruction and have their technique reviewed on the occasion of a periodic health examination. It is acceptable for women to choose not to do BSE or to do BSE irregularly (Smith, Saslow, Sawyer, Burke, Costanza, Evans, Forster, Hendrick, Eyre & Sener, 2003).

Despite scientific evidence suggesting an overall harmful outcome from teaching Breast Self Examination, the recommendations were immediately criticized by breast cancer advocacy groups (Miller, 2001; Nekhlyudov & Fletcher, 2001; Lerner, 2002).

To increase the practice of BSE, it is important to examine the decision making processes underlying women's BSE behaviour. Although some studies have revealed a predictive role for self-identity (Armitage & Conner, 2001), others may indicate that engaging in health promoting behaviours such as BSE does not play a salient role in the self-concepts of younger women as younger women may not perceive breast cancer as a currently important consideration in their lives (Mason & White, 2008).

### **Summary of Review of Literature**

The literature revealed that programs to encourage Breast Self Examination, in the absence of mammography, would be unlikely to reduce mortality from breast cancer. Therefore, women who choose to practice BSE should be informed that its efficacy is unproven and that it may increase their chances of having a benign breast biopsy. Despite scientific evidence suggesting an overall harmful outcome from teaching Breast Self Examination, the recommendations were immediately criticized by breast cancer advocacy groups. There is a significant difference in the perception of the risk and effect that such perception has on BSE between age groups. It was also clear that one of the contributing factors is that breast health and breast cancer are not regarded as public health priorities both nationally and provincially. Women living in rural

communities with a life companion and younger women were more likely to practice BSE. Women who had family histories of cancer, especially older women, performed BSE significantly more often. There was a trend towards increasing BSE with increasing personal perception of the risk of cancer, especially among older women. The study showed a positive association between BSE and screening mammography.

## **CHAPTER THREE**

### **METHODOLOGY**

The purpose of the study was to assess the level of knowledge, attitude and practice of breast self-examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana. This chapter elaborates on the methods used to conduct the study. It contains research design, population, sample and sampling procedure, instrument, data collection procedure, and analysis procedures.

#### **Research Design**

The study is a descriptive design that collects information on the knowledge; attitude and practice of breast self-examination among nurses in Sekondi-Takoradi Metropolis in the Western Region. Gay (1987) stresses that a descriptive survey method is useful for investigating a variety of educational problems including assessment of attitudes, opinions and demographics.

#### **Population**

The population of the study consisted of all female nurses in the Sekondi. The target population was made up of all the nurses in the Effia Nkwanta Regional Hospital. The accessible population consisted of all female nurses from the auxillary to the junior staff through to the senior staff at the Effia Nkwanta Regional Hospital in the Sekondi-Takoradi Metropolis.

The auxillary nurses comprises the health assistants, the health aides, ward assistant whiles the junior staff comprises the senior staff nurse, senior staff midwife, staff nurse, staff midwife, community nurses and enrolled nurses. The senior rank staffs are deputy directors of nursing, principal nursing officers, senior nursing officers and the nursing officers.

The accessible population consisted of 229 female nurses working at the regional hospital in the Sekondi-Takoradi Metropolis which the sample population was selected (Western Regional Health Directorate, 2013)

### **Sample and Sampling Procedure**

A sample size of 130 nurses was considered representative enough for the study. The choice of this sample size was based on the proposition of Fraenkel and Wallen (2000) that for a descriptive research, a minimum sample size of 100 cases is sufficient to generalize the entire population. The purposive sampling method was first used to select the category to be used for the study.

The nurses who were chosen for the study have had not less than 3 years standing experiences and besides, the Regional Hospital has been in operation since 1938. The hospital has eleven departments which are the medical, surgical, pediatric, obstetrics and gynecological, accident and emergency and the outpatient department. The medical, pediatrics and gynecological and obstetrics all have two wards with the exception of the surgical ward which has three wards. The emergency and the outpatient are one each. Each of these wards have about eighteen to twenty nurses who come on shift basis .Each ward was targeted and a maximum of about eleven staffs selected taking into consideration all the ranks in



the nursing field .Any time we visit the ward any nurse who fall into that category was allowed to fill the questionnaire bearing in mind that the researcher want at most four staffs from each rank to enable all the ranks have equal chance of representing find out differences in knowledge ,attitude and practice.

The youngest were between the ages of 20-29years (53.2%, n=67). Almost half of the nurses were either married or had been married before (49.2%, n=62). There were 3 ranks and 45 nurses each were selected from the junior and the auxiliary ranks, and 40 nurses were selected from the senior rank purposively. This was because the junior and the auxiliary ranks were more than the senior rank and to make it representative enough. This was done by convenience as the researcher collected the data from the nurses at the time of her visit taking their ranks into consideration.

### **Instrument**

A questionnaire was developed to collect data. The questionnaire was divided into four sections; Section A consisted of alternate choice items on the demographic characteristics of the subjects. Section B of the questionnaire consisted of eleven alternate choice items which bothered on nurses' knowledge on breast self-examination. Section C consisted of nine alternate choice items that posed questions on attitude of and nurses on breast self-examination. Section D consisted of eleven items on the practices of breast self-examination by nurses. (See Appendix A)

## **Validity and Reliability of the Instrument**

Initial 64 item instrument was given to a senior research assistant (SRA) from the Department of HPER and colleagues of the nurses training college to assess and make the needed corrections. In addition, two lecturers from the Department of HPER of the University of Cape Coast (UCC) face and content validity. These steps reduced the questionnaire items to 40. The questionnaire was further refined to 34 items by the two supervisors of this project.

To determine reliability of the instrument, pre-testing of the instrument was conducted in different area. After content and construct validation of the instrument by the supervisor, the questionnaire was administered to a comparable sample of 30 nurses to ensure that the items were worded correctly and understandable to respondents. The pre-test was carried out on nurses at Takoradi Metropolitan hospital in Takoradi for the necessary amendments and corrections of any ambiguities. The purpose of the pre-test was to familiarize with possible problems that may be encountered in the main study and also expose obstacles that may pose a threat to the external validity of the instrument. Data from the pre-test was analysed using Cronbach Alpha to determine the internal consistency of the instrument. The reliability co-efficient of the instrument was 0.72 which was considered good enough to conduct the study. (Fraenkel & Wallen, 2000).

## **Data Collection Procedure**

An introductory letter was collected from the Head, Department of Health, Physical Education and Recreation to help identify and introduce myself and research assistants as well as the purpose of the study to the Regional

Hospital for approval and the participation of the nurses. Informed consent was obtained from the deputy director of nurses' services and adequate rapport established. Five of the second and third year nursing students of Nurses and Midwifery Training College, Sekondi. These research assistants were briefed to facilitate data collection from respondents because they had knowledge on the topic. The role of the research assistants was to contact, administer and retrieve the questionnaire from the respondents. Questionnaire was administered by hand and its retrieval was also done by hand. The questionnaire was administered in two sessions, morning and afternoon. The collection of the primary data lasted for two weeks and there was 96.9% retrieval rate.

### **Data Analysis**

For socio-demographic data such as age group, religion and sex (items 1-5), summary tables of frequency counts and percentage scores were used to present the demographic characteristics of the respondents. Research questions one to three were analysed using frequency counts and percentages to report on the knowledge, attitude and practices of and nurses on BSE. This is because the scales of the question seeking the responses were mostly different (Cresswell, 1998).

Also, chi-square test of independence was used to analyse the research questions since data collected was in the nominal scale of measurement.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSIONS**

The purpose of the study was to explore the level of knowledge, attitude and practice of breast self- examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana.

It would be realised that some of the responses presented in the tables did not add up to the total number of respondents (126). This is because some of the respondents did not respond to some of the questions. The presentation was in line with the way the research questions were formed. The arrangement was first general and later separated to represent the details of the different ranks used in the study. The second part of chapter four involved a discussion of all the findings.

#### **Research Question 1: What is the Extent of Knowledge of Breast Self-Examination among Nurses?**

Research question one was posed to find out the extent of knowledge of BSE the nurses had acquired. Frequencies and percentages were used in the presentation of responses with regards to knowledge of breast self-examination among nurses. In relation to knowledge concerning breast cancer, it was observed that virtually all respondents had heard about breast cancer. In a similar manner,

almost all respondents were aware that breast cancer can be easily detected. An improved observation (100.0%) among the respondents was that all of them knew of the detection method called breast self-examination. They all also acknowledged that early detection considerably improved ones chances of survival. In the general sense, a high level of knowledge was observed (98.1%). These can be observed from Table 1.

**Table 1: Knowledge of Breast Cancer**

Item	Yes N(%)	No N(%)
Early detection of breast cancer		
improves survival	126(100.0)	0(0.0)
I have heard of Breast Self-Examination	126(100.0)	0(0.0)
Breast Cancer can be detected easily	120(96.0)	5(4.0)
I have heard of Breast Cancer	112(96.8)	4(3.2)
<b>Total</b>	<b>484(98.1)</b>	<b>9(1.8)</b>

Table 2 shows the sources of information (knowledge) about breast cancer that the students used. Table 2 showed that most respondents had one major source of information. This source of information was mainly the training school. However, another significant source of information was the television (29.4%, n=37). The other sources examined had four percent (n=5) of respondents who used them as a source of information.

**Table 2: Source of Information about Breast Cancer**

Item	Yes N(%)	No N(%)
Training School	90(71.4)	36(28.6)
TV	37(29.4)	89(70.6)
Home	5(4.0)	121(96.0)
News paper	5(4.0)	121(96.0)
Peer Group	5(4.0)	121(96.0)

Concerning people who should be examined for breast cancer it was evident that most respondents were of the opinion that breast self-examination was for females only (59.5%, n=72). Data from Table 3 showed however that a good number also thought it was for both genders (40.0%, n= 49). This is in support of a study done in KATH which states that Male breast cancer remains relatively uncommon. Although most texts put the male incidence at 1% of breast cancers. Pathol (1994) proportion in various countries is variable. Analysis of pathology specimen in Ghana puts the incidence at 2%. (Akosa, Ampadu, Tettey, 1999) and in Jos (Nigeria) it has been reported as high as 8.6%<sup>2</sup>. In this series it is 1.3%. None of the respondents felt that breast self-examination was for men only.

**Table 3: Gender that should Perform Breast Self-Examination**

Item	Frequency	Percentage
Males only	0	0.0%
Females only	72	59.5
Both males and females	49	40.5
<b>Total</b>	<b>121</b>	<b>100.0</b>

Frequency distribution for the respondents opinion showed that most of the respondents in the study, 68% (n=83) felt breast self-examination should be a monthly exercise. Another 19.0% (n=23) also believed that a weekly performance of breast self-examination was the best. Details about the method of breast self-examination was also ascertained in the study. Almost all respondents were of the opinion that the right way of performing breast self-examination involved palpating with palm and a minimum of three fingers (92.7%). This can be found in Table 4.

**Table 4: Respondents' Opinion on how to Perform Breast Self-Examination**

Item	Frequency	Percentage
Palpate with palm and minimum of three fingers	115	92.7
Palpate with one finger	4	3.2
Anyhow	4	3.2
I do not know	1	0.8
<b>Total</b>	<b>124</b>	<b>100.0</b>

Balogun and Owoaje (2005) found in their study that almost seven out of every 10 women in Nigerian market places had not heard about BSE. However, their study was in contrary to the findings of this study that almost all respondents were aware of breast self-examination. Although this study was similar to Balogun and Owoaje (2005), the respondents were different and could be the reason for the difference observed. This is because Odusanya and Tayo (2001) and Demirkiran et al (2007), found that nurses had a high level of knowledge about breast cancer and breast self-examination. The IARC Handbook on Cancer Prevention (2002), was of the opinion that breast cancer can be detected easily with the vast methods of detection available (CBE and BSE). This was consistent with the knowledge of the nurses (in Sekondi-Takoradi) studied that breast cancer can easily be detected (96.0%). Althuis et al. (2005) in their study acknowledged the essence of early detection towards the improvement of a cancer patients' likelihood of survival. The participants were also of the opinion that early detection helps improves chances of survival. In Nigeria, Kayode, Akande and Osagbemi (2005), amongst other things examined the sources of knowledge of secondary school teachers concerning BSE. The major source of information was the television (28.2%, n=92), while only 4.6% (n=15) had heard through health personnel. However, for nurses in this study, the training school was the major source of information about BSE. Outside Africa, Demirkiran et al. (2007) studied the source of information among nurses and observed that contrary to the source of information among African countries, reading materials were the major source of information (42.6%), nursing school education (38.6%) and other health



professionals (37.6%). On how to perform BSE, palpating with three fingers and the palm (92.7%, n=115) represented the procedure majority of the nurses in Sekondi-Takoradi knew. However, Vurur, Kaya, Ünüvar and Sezgin (2005) showed that 86.3% of nurses inform patients correctly about BSE but unable to inform them properly on corrective practices. The general perspective from the study and showed a high level of knowledge among the nurses in Sekondi-Takoradi Metropolis.

**Research Question 2: What is the Extent of Nurses' Attitude Towards Breast Self-Examination?**

Analysis of research findings in relation to nurses' attitude towards BSE would be done by means of frequencies and percentages. Majority of nurses involved in the study felt they were very well informed about breast self-examination (47.5%, n=59). This was followed by another 31.2% (n=39) who felt that they had a good level of knowledge about breast self-examination. The nurses who felt they had excellent information concerning breast self-examination constituted 17.6% (n=22). However, very few nurses, 4 percent (n=5), felt they were poorly informed about breast self-examination. These can be observed from Table 5.

**Table 5: Opinion of Nurses on How Well they are Informed about Breast Self Examination**

Responses	Frequency	Percentage
Excellent	22	17.6
Very Good	59	47.2
Good	39	31.2
Poor	5	4.0
<b>Total</b>	<b>125</b>	<b>100.0</b>

**Table 6: Attitude Towards Breast Self-Examination**

Item	Yes	No
	N(%)	N(%)
Breast self-examination is worthwhile	114(94.2)	7(5.8)
I care about breast self-examination	118(95.2)	6(4.8)
I think breast self-examination is necessary	119 (96.7)	4(3.3)
<b>Total</b>	<b>351(95.4)</b>	<b>17(4.6)</b>

The basic components of attitude towards BSE is presented in Table 6. Most nurses were of the opinion that BSE was worthwhile (94.2%, n=114) while a minority of 5.8% (n=7) felt it was not important. Also, almost all nurses were concerned (cared) about BSE (95.2%, n=118). On the other hand, 4.8 % (n=6) were not concerned about BSE. BSE was also considered necessary among 96.7% (n=119) of the nurses used in the study. Generally, a high level of positive attitude

towards BSE was observed, 95.4%, among the nurses in Sekondi-Takoradi Metropolis whilst few nurses showed negative attitude (4.6%).

**Table 7: Level of Interest in Doing Breast Self-Examination**

Response	Frequency	Percentage
Interested	105	86.1
Not interested	12	9.8
Scared	5	4.1
<b>Total</b>	<b>122</b>	<b>100.0</b>

**Table 8: Level of Importance of Breast Self-Examination and Early Detection**

Item	Very Important	Important	Not Important
Importance of early detection in saving a woman's life	106 (86.2)	16 (13.0)	1 (0.8)
Importance of breast self-examination	86 (69.9)	32 (26.0)	5 (4.1)
<b>Total</b>	<b>192 (78.5)</b>	<b>48 (19.5)</b>	<b>6 (2.4)</b>

It was found that 86.1 % (n=105) of nurses in Sekondi-Takoradi Metropolis were interested in doing breast self-examination. A few of them were either just not interested (9.8%, n=12) or scared of doing it (4.1%, n=5). This can be observed in Table 7. The level of importance attached to BSE among the nurses in Sekondi-Takoradi is presented in Table 8. Most nurses (69.9%, n=86) considered BSE as very important exercise. This was followed by 26.0% of the nurses who considered BSE as important. Very few nurses (4.1%, n=9) felt BSE

was not important. In relation to situations of early detection, almost nine out of every ten (86.2%) nurses in Sekondi-Takoradi attached high level of importance to the fact that early detection of breast cancer was very important in saving a woman's life. On the other hand, almost one out of every ten nurses (0.8%) in Sekondi-Takoradi felt that early detection was not necessary in saving a woman's life.

**Table 9: How Frequent Nurses have Considered Doing Breast Self-Examination**

	Frequency	Percentage
Monthly	80	66.1
Weekly	24	19.8
Yearly	12	9.9
Daily	5	4.1
<b>Total</b>	<b>121</b>	<b>100.0</b>

The rate of recurrence to nurses to perform breast self-examination is presented in Table 9. In considering to do BSE, most of the nurses (66.1%) in Sekondi-Takoradi have thought about it once in a month. Also on a weekly basis, almost two out of every ten (19.8%) nurses in the Sekondi-Takoradi metropolis have thought of doing breast self-examination. On the other hand, 14% of the nurses think of doing breast self-examination. With regards to likelihood of doing regular BSE, about half of the nurses (50.8%) were considered likely of having BSE on a regular basis. Another 43.8% of nurses had a higher level of likelihood

(very likely) in conducting regular breast self-examination. Data to support these can be found in Table 10.

**Table 10: Likelihood of Regular Breast Self-Examination**

Response	Frequency	Percentage
Likely	62	50.8
Very likely	53	43.4
Unlikely	7	5.7
<b>Total</b>	<b>122</b>	<b>100.0</b>

In expressing attitude about breast self-examination, it was observed by Okobia et al. (2006) that most women in Qatar had a positive attitude about clinically based breast examination. In a similar manner, nurses of Sekondi-Takoradi showed positive attitude towards BSE (Table 6). In the study of Jarvandi et al. (2002) both teachers and nurses demonstrated high level of interest on doing BSE. However nurses seemed to demonstrate a higher level of interest as compared to the teachers because of their working environment and the fact that they see most breast cancer cases every now and then. Jarvandi et al. (2002) also found in their study that early examination of the breast was necessary towards early detection of breast cancer. Hence nurses of Sekondi-Takoradi attached high level of positive attitude towards breast self-examination and early detection as a major step in saving a woman's life (Table 8). Table 8 showed that 78.5% of the respondents attached the highest level of importance to breast self-examination and early detection. This translated into a weekly and monthly consideration on doing BSE among the nurses. Park (2002) noted that for

developing countries like Ghana, Nigeria, etc. breast self-examination have prospect where there are lack of equipment. (Morrison (1994) however, observed that early detection in some cases have been equated with prevention and even cure of cancer if detected.

### **Research Question 3: What is the Extent of the Practice of Breast Self-Examination among Nurses?**

Analysis of these research findings in relation to nurses' practice of breast self-examination was done by means of presenting tables of frequency and their consequent percentages of responses. Table 14 showed that most nurses had started doing their own breast examination. Almost nine out of every ten (87.4 %, n=104) nurses that were selected for the study had ever done or started BSE. Among those who had ever performed BSE, the major reason for doing BSE was the observation of routine procedures (79.4, n=81). The next major reason was the detection of lump within the breast (10, n=9.8). Other motives for conducting BSE includes; concern by those who had ever had breast cancer history in their families, having felt or ever felt pain within the breast, and just doing it because they have heard of BSE. The major reasons for not doing BSE among nurses was that they don't know how to (26.9%, n=7), not believing in the efficacy of BSE (23.1, n=6), and the ideology that breast self-examination is not important (19.2). Other reasons include: not having any symptoms of breast cancer, scared of being diagnosed with cancer, feeling that it is improper to touch one's self in that manner, and the believe that he/she can never have cancer (see Table 12).

It was observed among respondents that the frequency of performing BSE was mostly on a monthly basis (78.4%, n=87). Also, almost one out of every ten

people (9.9%) perform BSE on a weekly basis (9.9%, n=11) while the rest were approximately evenly distributed to be performing BSE either on a daily basis or on a yearly basis (Table 13).

**Table 11: Reasons for Breast Self-Examination**

Item	Frequency	Percentage
To examine my breast regularly	81	79.4
To see if I will detect a lump in my breast	10	9.8
Breast cancer history in the family	4	3.9
Sometimes I have ever felt pain in my breast	3	2.9
Just doing it because I have heard about it	2	1.0
To prevent breast cancer	2	1.0
<b>Total</b>	<b>102</b>	<b>100.0</b>

**Table 12: Reasons Why Respondents Have not done Breast Self-Examination before**

Item	Frequency	Percentage
Don't know how to	7	26.9
Don't think it is important	5	19.2
Don't think I should touch myself like that	1	3.8
Don't believe in the efficacy of breast self-examination	6	23.1
Don't have any symptoms	4	15.4
I can never have cancer	1	3.8
I am scared of being diagnosed of cancer	2	7.7
<b>Total</b>	<b>26</b>	<b>100.0</b>

**Table 13: Frequency of Performing Breast Self-Examination in a Year**

Responses	Frequency	Percentage
Daily	7	6.3
Weekly	11	9.9
Monthly	87	78.4
Yearly	6	5.4
<b>Total</b>	<b>111</b>	<b>100.0</b>

Evidence from the study showed that while most respondents had already started breast self-examination, 12.6% (n=15) had not started BSE. This can be observed from Table 14. Most respondents started practicing breast self-examination at their youthful ages (between 18 and 30 years). This group of respondents represented 71% of the nurses in Sekondi-Takoradi Metropolis (see Table 15). Few respondents started breast self-examination either before 18 years or after 30 (i.e. 10.3 and 18.7% respectively).

**Table 14: Propensity to Practice More on Breast Self-Examination**

	Yes	No
	N (%)	N (%)
Have you started breast self-examination	104 (87.4)	15 (12.6)
I desire to know more about breast self-examination	115 (96.6)	4 (3.4)



**Table 15: Age at Which Respondents Started Breast Self-Examination**

Responses	Frequency	Percentage
Before 18 years	11	10.3
Between 18-30 years	76	71.0
Between 31-50 years	20	18.7
<b>Total</b>	<b>107</b>	<b>100.0</b>

From Table 16, the last time most respondents performed BSE was between three and six months interval (i.e. 57.5%). This was followed by the respondents who last performed BSE less than a week ago (26.4%) and those who last performed it between six months and less than a year (16.0%). Table 17 shows information concerning the time that respondents normally perform BSE. It was observed that 45% (n=46) of nurses in Sekondi-Takoradi performed their BSE in the morning. The same ratio of the respondents performed their BSE at night whiles 9.8 percent (n=10) of the respondents performed their BSE in the afternoon. Most of the participants (51.9%, n=54) in the study performed their BSE whiles lying on the bed. This was followed by the group of nurses, 35.6% (n=37) that performed their BSE in front of the mirror. The least group of respondents performed their BSE in the bathroom (12.5%, n=13). This information can be found in Table 18. Despite the nature of the practices of the nurses, evidence from the field suggested that virtually all respondents (see Table 14) still desired to know more about BSE (96.6%, n=115).

**Table 16: The Last Time Respondents Performed Breast Self-Examination**

Item	Frequency	Percentage
Less than a month ago	28	26.4
Between three to six months	61	57.5
More year	17	16.0
<b>Total</b>	<b>106</b>	<b>100.0</b>

**Table 17: Time Respondents Normally Performed Breast Self-Examination**

Item	Frequency	Percentage
Morning	46	45.1
Afternoon	10	9.8
Evening	46	45.1
<b>Total</b>	<b>102</b>	<b>100.0</b>

**Table 18: Where Respondents Normally Perform Breast Self-Examination**

Item	Frequency	Percentages
In front of mirror	37	35.6
Lying on the bed	54	51.9
In the bathroom	13	12.5
<b>Total</b>	<b>104</b>	<b>100.0</b>

Hill et al. reported of the good evidence of the benefit of encouraging women to practice BSE (Hill, White & Jolley, 1988). Most women in this study were found to have started breast self-examination between the ages of 18 and 30

yrs. Also important knowing was the fact that 90% performed BSE. Chie, Cheng, Fu and Yen (1993) noted that despite the practice that might be available, sustenance of the practice was a very vital issue among women practicing BSE. In this current study most of the respondents (79.4%) performed breast self-examination because it was a routine procedure they normally followed. This was contrary to the major reason of finding an unusual observation, lump etc for a possible early diagnosis of breast cancer and hence, the respondents would find it difficult to sustain (Table 11). Kayode et al (2005) noted among the women he studied that among those who knew about breast cancer, half of them were not practicing. Among respondents, the major reason for none performance of breast self-examination was not having the know-how.

Major frequency of performing BSE (Table 13) is monthly (78.4%) and this was in agreement with the correct timing as stated in Budden (1998). However, Budden observed little below 50% of respondents in his study to be performing breast self-examination on monthly basis. He also noted that age was possibly important towards examination of practice of breast self-examination. Hence, most nurses in Sekondi-Takoradi started BSE between the ages of 18-30yrs. The age range was mostly the times that the nurses were having their nursing education. Little above half of the respondents performed last BSE 3 to 6 months ago (Table 16). Very few respondents performed it within the last week (26.4%). This was found consistent with the issue of sustenance of practice that was proposed and observed by (Kayode et al., 2005). Most respondents performed BSE in the morning whiles lying on the bed (35.6%) or in front of the mirror. As

Aydemir et al., (2001) noted, knowledge might be there, practice might also be available, but correct practices are found lacking (Seif & Aziz, 2001). In their study, 1.5% were found practicing correctly. The study finding was found to be consistent with other Nigerian population studies (Uche, 1999; Nwagbo & Akpala, 1996).

**Research Question 4: What is the Difference in Knowledge among Nurses of Different Ranks?**

With the general observation of respondents, concerning knowledge about breast cancer, this particular question sought to find out the differences in knowledge concerning breast cancer among the three different categories of nurses. It will involve the presentation of frequency table representing the differences among the different category of nurses. It would be concluded with a Chi-Square test to determine whether knowledge concerning breast self-examination was dependent on the staff category the nurse belongs to. It was observed that virtually all the nurses in the three different categories (97.4%, 97.7%, and 95.1%, for senior, junior, and auxiliary staff respectively) had heard about breast cancer. Also, similar observation was made in relation to the three categories of nurses being aware of easy detection of breast cancer. In relation to breast self-examination as a means of detecting breast cancer, all the staff in the different category was observed to be fully aware of such method (100.0% for senior, junior and auxiliary staff). Per the study, it was also observed that some isolated respondents knew about breast self-examination but did not know what breast cancer was and the fact that it could be easily detected. Hence despite the

fact that they know breast self-examination, they did not know what it actually does. This was observed among all the category of nurses. Another observation was that some nurses knew about breast cancer but did not know that it could be easily detected. This isolated case was observed among the professionally trained nurses (Senior and junior staff). These finding could be observed from Table 19.

**Table 19: Knowledge of Breast Cancer among the Different Category of Nurses**

Item	Senior		Junior		Auxiliary	
	Yes	No	Yes	No	Yes	No
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
I have heard of Breast Cancer	38 (97.4)	1 (2.6)	43 (97.7)	1 (2.3)	39 (95.1)	2(4.9)
Breast Cancer can be detected easily	36 (92.3)	3 (7.7)	41 (95.3)	2 (4.6)	44 (100.0)	0 (0.0)
Early detection of breast cancer improves survival	39 (100.0)	0 (0.0)	44( 100.0)	0 (0.0)	41 (100.0)	0 (0.0)
I have heard of Breast Self-Examination	39 (100.0)	0 (0.0)	44 (100.0)	0 (0.0)	41 (100.0)	0 (0.0)

Among the different respondents, breast cancer was observed to be most prevalent among area of residence of auxiliary nurses. The percentage of common occurrence in the environs of the different category of respondents was 10.5, 11.4, and 29.3% in respect of senior, junior, and auxiliary nurses respectively.

In studying the knowledge of the different category of nurses, it was deemed important to examine the sources of information for the different category of nurses. The average number of sources per the different category of nurses were 1.02, 1.06, and 1.12 for senior, junior, and auxiliary nurses respectively. This suggests that for any of the nurses, irrespective of the category they belong to, there is one source of information for every category of nurse. Table 20 suggests that the major source of information concerning breast cancer was the Training school of the different nurses. The second source of information that was mostly used by the nurses was the television. These observations could be seen from Table 20.

**Table 20: Sources of Information about Breast Cancer among Three Groups of Nurses**

Items	Senior		Junior		Auxiliary	
	Yes N(%)	No N(%)	Yes N(%)	No N(%)	Yes N(%)	No N(%)
Home	4(10.3)	35(89.7)	1(2.3)	43(97.7)	41(100.0)	0(0.0)
Peer Group	2(5.1)	37(94.9)	1(2.3)	43(97.7)	2(4.9)	39(95.1)
TV	11(28.2)	28(71.8)	10(22.7)	34(77.3)	16(39.0)	25(61.0)
News paper	2(5.1)	37(94.9)	1(2.3)	43(97.7)	2(4.9)	39(95.1)
Training School	28(71.8)	11(28.2)	34(77.3)	10(22.7)	26(63.4)	15(36.6)

Table 21 represents respondents' opinion on who was supposed to perform breast self-examination. Evidence from the study suggested that about half of the senior nursing staff were of the opinion that breast self-examination was supposed to be performed by females only (48.6%). The remaining half were of the opinion that male and females alike are supposed to perform breast self-examination (51.4%). A similar distribution of opinion was observed among the junior ranking nurses (i.e. 55.8%) that breast self-examination was meant for females only. The remaining junior ranking staff believed that breast self-examination was could be performed by both males and females. Among the junior ranking staff 71.8% of the respondents were of the opinion that females alone should perform breast self-examination while the remaining of the junior ranking staff were of the opinion that breast self-examination could be performed by both genders. However, none of the nurses in any of the category were of the opinion that males only should perform breast self-examination. In a bid to know the age category of respondents that needed to perform breast self-examination, it was observed that among all the ranks of nurses, the majority of respondents (59.5, 65.9, and 59.0 percent of senior, junior, and auxiliary nurses respectively) were of the opinion that only people greater than 19 years (adults) should perform breast self-examination.

**Table 21: Gender that Should Perform Breast Self-Examination Distributed among the Three Category of Nurses**

Items	Senior		Junior		Auxiliary	
	N	%	N	%	N	%
Males only	0	0.0	0	0.0	0	0.0
Females only	18	48.6	24	55.8	28	71.8
Both males and females	19	51.4	19	44.8	11	28.2
<b>Total</b>	<b>37</b>	<b>100.0</b>	<b>43</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

Whiles studying the knowledge of the nurses concerning breast cancer, information on how breast self-examination should be done was collected (Table 22). Among all the ranks of the nurses, an overwhelming majority were of the opinion that the correct way to perform breast self-examination was by palpating with the palm and a minimum of three fingers (92.3%, 95.2%, and 90.2% respectively for senior, junior and auxiliary nurses respectively). Very few auxiliary nurses thought it could be done anyhow. Per the opinion expressed by the respondents of different ranks it was observed that majority believed that breast self-examination should be performed monthly. The percentage of respondents that expressed the said opinion among the senior and junior ranking staff were similar (71.4 and 71.8) respectively for junior and senior ranking nursing staff). However, the percentage decreased among the auxiliary nurses (60.5%).



The Chi-square test of independence revealed that the knowledge level of the nurses was not significantly dependent on the category of various nurses. This was evident as  $X^2 (2) = 0.472$  with  $p = 0.808$ . Hence the senior (M=6.87, SD=2.07), junior (M=6.45,SD=2.03), and auxiliary (M=6.49, SD=2.12) nurses demonstrated no significant difference in their knowledge level scores.

**Table 22: Respondents' Opinion on How to Perform Breast Self-Examination, a Distribution of Responses among the Nursing Ranks**

Item	Senior		Junior		Auxiliary	
	N	(%)	N	(%)	N	(%)
Palpate with one finger	3	7.7	1	2.4	0	(0.0)
Palpate with palm and minimum of three fingers	36	92.3	40	95.2	37	90.2
Anyhow	0	(0.0)	1	2.4	4	9.8
I do not know	0	(0.0)	0	(0.0)	0	(0.0)
<b>Total</b>	<b>39</b>	<b>(100.0)</b>	<b>42</b>	<b>(100.0)</b>	<b>41</b>	<b>(100.0)</b>

In the comparison of knowledge about breast self-examination, Balogun and Owoaje (2005), compared the knowledge of respondents of different age categories. He observed that women who were highly prone to cancer were knowledgeable in cancer as compared to younger women who were less prone. In this study, we compared the knowledge of different category of nurses and observed that all three category of nurses were very aware (same level of knowledge) of breast self-examination. This was contrary to expectation of

differences among the three nurse groups since the age groups are different and expected different educational levels. However, it was similar to the findings of Odusanya and Tayo (2000), that Nigerian nurses were well informed about breast self-examination. Demirkiran et al. (2007), noted that the knowledge of nurses was higher than other professionals studied.

This study found an average of one source of information for the different category of nurses. The major source of information was identified to be the training school (Table 21). This seemed to suggest that there was no seeking of more information from any other sources after nursing education. However, the study of Demirkiran et al. (2007), revealed that in Nigeria (a similar West African country like Ghana), the nurses seemed to be more proactive in seeking more information about breast cancer after their training. Hence the major source of information that was found was written materials (42.6%) and nursing school education (38.6%). Part of the study examined respondents' opinion in relation to age-category of those who should perform breast self-examination. Montazeri (2003), was of the opinion that those who were to be examined for breast self-examination were split in percentage as to whom they preferred to perform the examination. Senior (51.4%) Ghanaian nurses in Sekondi-Takoradi were similarly of the opinion that breast self-examination can be performed by both males and females. However, as the rank depreciated, more females only were opined by the nurses to perform breast self-examination. Hence junior and auxiliary nurses opined in 51.6 and 55.8 percentage ratio that only females should perform breast self-examination (Table 12). Unuvar and Sezgin (2005) and Odusanya (2002)

showed in their study that the majority of nurses showed a lack of knowledge concerning breast self-examination, especially corrective measure information. However, in this study, all the three nurses category were of the opinion that breast self-examination should be performed as palpating with three fingers and the palm (Table 13). Although Unuvar and Sezgin (2005), discovered in their study that some nurses failed to inform patients correctly concerning when to start breast self-examination (86.3%) while Seif and Aziz (2000), found that nurses other lack knowledge areas, Sekondi-Takoradi nurses were of the opinion that the correct frequency for performing breast self-examination was monthly.

However, there were differences between the opinion of the senior and junior nurses and that of the auxiliary nurses. Less percentage of the auxiliary nurses were of the opinion that the right way to perform breast self-examination was by palpating with three fingers and the palm (71.4, 71.8 and 60.5% for senior, junior, and auxiliary nurses, respectively). However, it is important to note that these differences are not significant.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **Summary**

The purpose of the study was to assess the level of knowledge, attitude and practice of breast self-examination among nurses in Effia Nkwanta Regional Hospital of the Sekondi-Takoradi Metropolis in the Western Region of Ghana. This chapter presents the summary, conclusions and recommendations of the study. Suggestions for further research have also been covered.

#### **Overview of the Study**

For the purpose of this chapter researches, articles, books and journals on BSE were read and literature was reviewed under the following sub-headings because they form the variables of the study.

1. Screening Methods for Breast Cancer
2. Knowledge on Breast Self- Examination
3. Practice of Breast Self- Examination
4. Attitude on Breast Self-Examination

Five research questions were formulated to guide the study. The descriptive design was used to conduct the study. The accessible population consisted of 229 nurses working at the regional hospital in the Sekondi-Takoradi Metropolis where the sample population was selected (Western Regional Health

Directorate, 2013). A sample size of 130 nurses was considered representative enough for the study. The purposive sampling method was used to select the category to be used for the study. The nurses who were chosen for the study have had not less than three years standing experiences. The instrument for the data collection was a researcher-developed questionnaire. For socio-demographic data such as age group, religion and sex (items 1-5), summary tables of frequency counts and percentage scores were used to present the demographic characteristics of the respondents. Research questions one to three were analysed using frequency counts and percentages to report on the knowledge, attitude and practices of nurses on BSE. Also, chi-square test of independence was used to analyse the research questions since data collected was in the ordinal scale of measurement in view of the fact that the groups are in ranks.

### **Key Findings**

- i. Virtually all respondents had knowledge on breast self- examination. Most respondents had a singular source of information on BSE .About 40% of the auxiliary had the source from the television which is not encouraging.
- ii. Generally a high level of positive attitude towards breast self-examination was observed .
- iii. Nurses practice on breast self-examination was encouraging but Observation showed that most respondents were of the opinion that breast self-examination was for females only but males also perform BSE to detect cancer.

- iv. The knowledge level of the nurses was not significantly dependent on the category of various nurses

### **Conclusions**

The knowledge of the nurses in the present study was satisfactory. The nurses knew the importance of BSE and were concerned about its practice except that some did not know that men also perform Breast self-examination

### **Recommendations**

- i. The finding that some of the nurses did not practice BSE suggests that there is a need for continuing nursing education programmes.
- ii. Emphasis should be laid on BSE in undergraduate and postgraduate courses and other certificate awarding nursing training schools as they are mostly involved in patient care and education.
- iii. The mass media should be used to disseminate information on BSE to enhance effectiveness particularly among the study group who has been found to be well educated enough for adequate impact.
- iv. Health workers should intensify health education on the importance of BSE when they come in contact with the populace especially during antenatal and immunization clinic sessions.

### **Suggestions for Further Research**

This study looked at the level of knowledge, attitude and practice of breast self-examination among nurses in the Effia Nkwanta Regional Hospital in

the Sekondi Takoradi Metropolis. Further research could be conducted to cover an expanse population, also male nurses should be included in the study.

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## **APPENDICES**

**APPENDIX A**  
**QUESTIONNAIRE**  
**UNIVERSITY OF CAPE COAST**  
**FACULTY OF EDUCATION**  
**DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND**  
**RECREATION**

Dear participant

My name is Francisca Ohene Akuffo, an M.Phil student from UCC, conducting a research on the Knowledge, Attitude and Practice of Breast Self-Examination among Nurses in the Sekondi-Takoradi Metropolis. You are kindly requested to read through the questions and circle your appropriate responses. Your response will be analyzed in a group and you will not be identified. For any questions contact me on 0276427979

Thank you for participating in this study.

Yours sincerely,

## SECTION A

**Instruction: Please circle your response**

1. Age at date of birth (years):

20 – 29

30 – 39

40 – 49

50-59

More than 60

2. Marital status:

(a) Single (b) married (c) divorced (d) widowed (e) separated

3. Religion:

(a) Christian (b) Islam (c) Traditional (d) Others, specify

\_\_\_\_\_

4. Rank in Occupational:

(a) Senior staff (b) junior staff (c) auxiliary

5. Length of Service:

(a) 0-2 (b) 3-5yrs (c) 6-9yrs (d) 10-12yrs (e) above 12 yrs.

## SECTION B

**Instruction: Please circle your response.**

6. Have you heard of breast cancer?

(a) Yes (b) No

7. Is breast cancer common in your area?

(a) Yes (b) No

8. Can breast cancer be detected early?  
(a) Yes (b) No
9. Does early detection of breast cancer improve chances of survival?  
(a) Yes (b) No
10. Have you heard of breast self-examination (BSE)?  
(a) Yes (b) No
11. How did you hear about it?  
(a) Home (b) Peer group (c) Television/Radio (d) Newspaper (e) Training school
12. Breast Self-Examination is made for?  
(a) Male only (b) Female only (c) Both Male and Female
13. At what age should breast self- examination begin?  
(a) <19 years (b) >19 years
14. How often should you perform breast self- examination?  
(a) Daily (b) Weekly (c) Monthly (d) Yearly
15. How is breast self -examination done?  
a) Palpate with one finger  
b) Palpate with palm and minimum of three fingers  
c) Anyhow  
d) I do not know
16. How well are you informed about breast self-examination?  
(a) Excellent (b) Very Good (c) Good (d) Poor

### SECTION C

**Instruction: Please circle your response**

17. Do you feel breast self-examination is worthwhile?  
(a) Yes (b) No

18. Do you care about breast self-examination?  
(a) I do care (b) I do not care
19. How interested or uninterested are you in doing breast self-examination?  
(a) Interested (b) Not interested (c) scared
20. How important or unimportant is breast self-examination to you?  
(a) Very Important (b) Important (c) Not Important
21. How important or unimportant do you think early detection is to saving the life of a woman who has had breast cancer?  
(a) Very Important (b) Important (c) Not Important
22. How often, if at all, have you thought of doing breast self-examination?  
(a) Daily (b) Weekly (c) Monthly (d) Yearly
23. How seriously, if at all, have you considered doing breast examinations?  
(a) Very seriously (b) Seriously (c) Not seriously
24. How likely, if at all, would it be for you to do a regular breast examination?  
(a) Very likely (b) Likely (c) Unlikely
25. Do you think breast self-examination necessary?  
(a) Yes (b) No

#### SECTION D

**Instruction: Please circle your response**

26. Have you done BSE before?  
(a) Yes (b) No
27. If yes, why?  
(a) To examine my breasts regularly (b) Because breast cancer is in my family

(c) Others -----

28. If you have not done breast self-examination, why not?

(a) I don't know how to do it (b) I don't think it is important

(c) I don't think I should touch my body like that (d) I don't believe in the efficacy of BSE

(e) I don't have any symptom (f) I know I can never have cancer

(g) I am scared of being diagnosed with breast cancer

29. How often do you perform breast self-examination in a year?

(a) Daily (b) Weekly (c) Monthly (d) Yearly

30. Have you started breast self-examination (a) Yes (b) No

If Yes continue from question 26-30, If NO move to question 30.

31. At what age did you start BSE?

(a) Before 18 years (b) between 18-30 years

(c) Between 31-50 years (iv) 51+

32. When was the last time you performed BSE?

(a) Less than a month ago

(b) Between three to six months

(c) A year and more

33. What time do you normally perform BSE?

(a) Morning (b) Afternoon (c) Evening

34. Where do you usually perform BSE?

(a) In front of mirror (b) Lying on the bed (c) In the bathroom



35. Would you want to know more about BSE?

(a) Yes    (b) No

**Thank you for participating in this study**

## APPENDIX B

### NURSING STAFF LIST BY RANK AND DISCIPLINE

**EFFIA NKWANTA REGIONAL HOSPITAL**  
**NURSING STAFF LIST BY RANK AND DISCIPLINE**  
**1ST QUARTER RETURNS FROM 1ST JANUARY TO 31ST MARCH 2013**

Y: - PNO (GEN)

REGION: WESTERN

	DDNS	PNO	SNO	NO			SSN					SN																ON CONTRACT
				SRN	DEG.	DIP	PMS	SMS	NO	SRN	DIP	SSM	DIP	SEM	CIP	SM	EN/ SUPT.M	FOHE	SENM	EN/ SUPT	PEN	SEN	SCHN	SUPT CHN	CHN	EN		
GENERAL	2	8	10	3	7	5	6	7	11	2	36	7	7	38	12	1	NIL	4	NIL	24	3	1	5	1	18	25	NIL	
PSYCHIATRY	1										2			1								1						
PUBLIC HEALTH		1	1																									
EDUCATION																												
N.T.			2			2																						
YE			2	1																								
TOTAL	3	9	15	4	7	7	6	7	11	2	38	7	7	39	12	1	NIL	4	NIL	24	3	2	5	1	18	25	NIL	

Training/Course	Local		Overseas		Grand Total No. of Staff	-	257
	RGN:	-	NIL	Short:	NIL	-	229
	Midwifery:	-	3	Long:	NIL	-	147
	Public Health Nursing:	-	1	Post Graduates:	1	-	82
	Psychiatry:	-	1			-	NIL
	Diploma/Degree	-	10	Others:		-	229
	Health Science Edu. D	-	1	Attachment Deaf & Dumb	NIL	-	16
	Other - Peri-operative	-	NIL	Training Institution	26	-	9
	Medical Assistant	-	8	Compulsory Retirement	2	-	6
	Anaesthetic	-	NIL	Vacation of post	NIL	-	NIL
	E.N.T.	-	NIL	Resignation	NIL	-	NIL
	Ophthalmic	-	NIL	Leave Without Pay	NIL	-	NIL
	Dental Nursing	-	NIL	Trans Out	NIL	-	NIL
				Trans In	NIL	-	NIL
				Termination of Contract	NIL	-	NIL

**APPENDIX C**

**Descriptive**

Rank	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Senior	39	6.8718	2.06703	.33099	6.2017	7.5418	.00	9.00
Junior	44	6.4545	2.02834	.30578	5.8379	7.0712	.00	9.00
Auxillary	41	6.4878	2.12276	.33152	5.8178	7.1578	.00	9.00
Total	124	6.5968	2.06370	.18533	6.2299	6.9636	.00	9.00