BREAST CANCER PREVALENCE, AWARENESS AND PERCEPTION OF INTERVENTION TECHNIQUES AMONG WOMEN IN LAGOS STATE: A PSYCHO-SOCIAL ANALYSIS

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DEDICATION

This research work is thankfully dedicated to the Saviour of my soul, who gave me life when I thought all was lost. To Him be glory, honour, worship and adoration and to my husband Engr. Abiodun, Ebenezer Adetifa, a physical pillar of support.

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ABSTRACT

This study conducted a psycho-social analysis of breast cancer focusing on variables such as prevalence of the disease within the study area, awareness and perception about it and perception of the various intervention techniques designed to control the spread of the disease. The research work was limited to Lagos State, using selected local government areas in the State. The research designs employed were the descriptive survey design coupled with the qualitative research design. A total of one thousand respondents were used as sample for the study. They were made up of 200 subjects from each of the five selected local government areas in the State. These subjects were selected using the random sampling technique. The questionnaire, interview schedule and medical records were the instruments employed for data gathering. The questionnaire and interview schedule were developed by the researcher and validated by the supervisors and other experts from other departments while the breast cancer records were gathered from selected hospitals used for the study. An initial pilot study was carried out to test the reliability of the research instruments. Chi-square, Two-Way Analysis of Variance (Anova) Duncan Multiple Range tests, Test of proportion and Factor analysis were equally employed in testing all stated hypotheses at 0.05 confidence level.
A conceptual model was developed after determining the psycho-social factors responsible for breast cancer awareness, prevalence and perception in Lagos State.

The findings obtained from the study are as follows:

- Women's education significantly influence their willingness to participate in breast cancer awareness programmes.
- Women's awareness of breast self examination, clinical breast examination and signs and symptoms of breast cancer significantly influence their practice of breast self examination and clinical breast examination.
- Religious affiliation is a factor that hinders women from seeing male Radiologist for clinical breast examination to detect lumps as well as undergoing mastectomy.
- Prevalence of breast cancer significantly varies from one profession to the other.
- Women's emotions, feelings and perception significantly influences their willingness to discuss and participate in breast cancer and intervention techniques.
- There is a significant difference in the prevalence level of breast cancer across the ages and periods studied.
- Nine psycho-social factors were found to be responsible for prevalence, awareness and perception of breast cancer in

Lagos State.

Recommendations

- Awareness creation should be extended to students, particularly from the lower secondary schools level.
- Professions which predispose women to high risk of breast cancer should be centre of attraction for awareness creators.
- Awareness should be extended to Religious circles to lessen its influences on women. A line of demarcation should be drawn between faith and reality.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

More than one million new cases of female breast cancer are diagnosed each year and it is the most commonly occurring disease in women, accounting for over 1/3 of the estimated annual 4.7 million cancer diagnosis in females and the second most common tumor after lung cancer in both sexes (Cancer Statistics World-Wide, 2005). It is also the most common female cancer in both developed and developing countries with 55 % occurring in the developing countries. Althuis (2005) observed that the annual global incidence had almost doubled since 1975 and the prevalence and incidence increased with increasing age.

Breast cancer is seen as a major public health problem, claiming over one million lives annually especially in industrialized nations (Cancer Statistics World-Wide, 2005) According to statistics released by the World Health Organization (2006), countries like the United States of America, Italy, Australia, Germany, the Netherlands, Canada and France have the highest overall breast cancer rates while developing countries with lower breast cancer rates are Northern Africa and Eastern Asia. A break-down of the figures on breast cancer diagnosis revealed that over 212,000 cases were diagnosed in the United States, 20,500 in Canada, 13,000 in Australia and U.K had 41,000 cases. Global Cancer Statistics (2002) Death rate of 76/100,000 females was estimated will occur in 2020. In addition, it was opined that 50 % of cases are women. Lifetime risk of this disease nearly tripled within 50 years as 1 in 20 women had it in 1960, 1 in every 7 in 1980. WHO (2003) documented that since 1987 breast cancer rates increased by 0.5 % each year and between 85 % and 90 % of the cases cannot be explained by inherited genetic predisposition. This situation is further compounded in developing nations with higher mortality in low risk areas such as Asian and African countries.

On the burden of cancer in Nigeria, Lambo (2007) explained that there are 100,000 new cases each year, and in 2010 there will be about 500,000 new cases. Survival rate for breast cancer in the U.S. is 85 % while in Nigeria it is a dismal 10 % (Olopade, 2004) The

Lagos State Ministry of Health documented that the annual percentage of new cases in Lagos State is 33.6 % of every 100,000 women. According to Lagos State Office of Statistics Document (2005), 15 % of the cases occur in women under 30 years.

Table 1: Cancer rates in Nigeria

Site	Frequency %	Site	Frequency %
	1960 – 1980		1981 – 1995
Cervical	19.9	Cervical	22.7
Breast	11.2	Breast	25.7
Colorectal	8.5	Colorectal	2.8
NHL{including Burkitts}	7.4	NHL (including Burkitts)	4.4
Ovary	6.1	Ovary	4.0
Connective tissues	3.7	Connective tissues	3.4

Source: Durosimi (2004)

Table 1 revealed that between 1960 and 1980, Cervical Cancer had 19.9 % prevalence while breast cancer had 11.2 % but between 1981 and 1995, breast cancer has taken over the lead with 25.7 % while cervical cancer followed closely with 22.7 %. These statistics showed breast cancer to be rated first among all other cancers and majority of cases occurred in pre-menopausal women with the mean age at occurrence ranging between 43 – 50 years across the regions. The youngest age recorded in Lagos State was 16 years (Adebamowo and Ajayi, 2006).

What could be the possible causes of the seemingly increasing trend noticed about breast cancer? Adebamowo and Ajayi (2000), Olopade (2004), Olopade (2005), Oluwatosin and Oladepo (2006), Okobia,

Bunker, Okonofua and Osime (2006), Orija (2007) and others agree that awareness is lacking about the detection, prevention and the intervention techniques associated with the disease.

According to Okobia et al (2006) patients who are three months into the sickness reported that they could detect they had breast cancer because of the information they received. This information made them aware and opened up opportunities to seek treatment options. This presupposes that information about the disease is a key factor to awareness, prevention and early treatment of the disease, a factor which buttresses the point that adult education is vital to disseminating vital information that cuts across all fields including breast health education or early preventive measures.

Moreover, there could be some underlying psychosocial factors inhibiting the acceptance of information about breast cancer. These psychosocial factors may include women's attitude to information dissemination, belief systems in the Nigerian society, the individual and communal perception of the origin of the diseases and its intervention techniques and other socio-cultural influences based on myths and misinformation which seem to have affected its prognosis (outcome) especially in areas of poor socio-economic activities. Women's looks and feelings about their private lives have significant importance to their self-esteem in relation to the body and its components, which include the breast. Impairment or absence of it could inflict morphological and psychological imbalance. Public

perception of this disease and its early detection measures will influence women's ability to accept the preventive measures.

Further-more, knowledge of one's actual risk may enhance quality of life among those who experience heightened level of stress and anxiety in relation to over-estimates of their risk for breast cancer as well as reduce unnecessary use of health-care services (Kreuter and Strecher, 1995). Some of the intervention techniques such as mastectomy are wrongly perceived. Perception of the disease as the works of witches, ancestral curses, result of individual's misdeeds and so on, seem also to be stumbling blocks to the awareness, thereby delaying prognosis. Studies conducted by Avery (2002), Attah (2005), Okobia et al (2006) confirm this assertion. This brings to the fore the "conspiracy of silence" according to Bryllye and Bashir (2003) and Avery (2002).

The diagnosis of this disease can lead to emotional disturbance with feelings of disbelief, shock, despair, helplessness, anger, resentment and denial. Lifestyle related worries are common among people diagnosed with the disease such as restlessness, feeling shaky and not able to relax, feeling out of control coupled with having trouble concentrating and experiencing problems with sleeping. The muscles experience tension and headaches are common. Feelings of tiredness become very regular, shortness of breath**,** rapid heartbeat, chest pain, sweating and stomach problems such as upset or diarrhea

exhibit themselves in various ways. Breast cancer also affects other family members and causes pain for the patients and ultimately sufferers succumb to it. The families of the sufferers are burdened with taking care of the patient, who could be the wife, sister or daughter. For effective patient-caregiver relationship, there is need for adequate education of both parties so as to enable a better environment that gender better results. This has to be done also through the instrumentality of adult education because information dissemination is a core value in adult education and care giving is not normally done formally. Watching a sick person, particularly with breast cancer could be overwhelming because the pains associated with breast cancer are much.

Nevertheless, researches have shown that globally the disease has been receiving attention in recent years. The world health situation is changing rapidly. In addition World Health Organization (WHO) aimed at strengthening collaboration with other organizations and bodies of the United Nation (UN) System such as Food and Agriculture Organization (FAO), United Nations Education Scientific and Cultural Organization (UNESCO), and United Nations International Children's Emergency Fund (UNICEF), including the World Bank, International Non-Government Organizations, Professional organizations and the private sector through the establishment and collaboration of networks to find solution to it. The focus of action is tackling unhealthy diets, physical activities and

tobacco use with the aim of developing global strategy for diet and physical activities. Furthermore, in Geneva, Switzerland, World Cancer Day was marked in 2006 with a warning from WHO that dramatic increase in risk factors are contributing to a worldwide rise in cancer rates particularly in low and middle income countries where more than 70 % of all cancer deaths occur. The WHO, therefore proposed a global goal of reducing deaths rates for all chronic diseases by 2 % a year from 2006 to 2015. It is expected that achieving this will avert over eight million of the projected 84 million deaths due to cancer in the next decade.

To this end, WHO has entered into global health treaty signed by 121 countries which entered into force from February 2005 with the aim of curbing tobacco and other allied products consumption which are known major causes of breast cancer.

Majority of women in third world countries seem to lack knowledge on the subject matter of breast health, are poverty ridden, culture saturated and religious influenced. For an enduring impact on them therefore, adult education could be adopted through awareness creation, dissemination of early detection measures, improve knowledge and promote adequate knowledge on breast health. These world organizations' activities would bear fruits when adult education tools are employed. In essence different international bodies are trying to curb this killer disease as much as they can, and organizations and groups in Nigeria have not been exceptions.

The Nigerian Situation

Nigerian government's efforts at curbing cancer began in 1960 with the establishment of cancer registry in the Department of Pathology in the University College Hospital, Ibadan mainly for use by health planners and for research purposes. Attention was initially focused on other health concerns such as infant and maternal health, family planning, Sexually Transmitted Diseases (STD's) and Human Immuno Deficiency and Acquired Immune Deficiency Syndrome (HIV/AIDS) (Adebamowo and Ajayi, 2000; Olopade, 2004; Durosimi et al 2004; and Kirtland, 2006) Souza (2006) also believes that the whole continent of Africa is battling with primary diseases like Malaria, Polio, and HIV/AIDS with limited resources left for cancer information and management. According to Durosinmi (2004), Women's Health and Economic Development Association (WHEDA) (2004), Lambo (2007), there are only six laboratories in Nigeria and out of the estimated four million Nigerians requiring radiotherapy, only 15% have access to facilities. To buttress health care delivery services, a committee was set up by the Federal Ministry of Health to draw a National Cancer Policy after the World Cancer Congress in 2006, with the theme "Bridging the gap and transforming knowledge into action". In 2007, the Federal government inaugurated the National Commission on Cancer Control to design plans and strategies for implementation and put a National policy on reproductive health and strategic framework. Awareness began in earnest when the World Cancer Day was marked in 2007 with

lectures, rallies and distribution of posters to health faculties. A national committee was set up to work to ensure uniformity of operation in cancer centers throughout the country with the Nigerian Nuclear Regulatory Agency (NNRA) making sure that every thing is in compliance with the International Basic Standards (IBSS).

Lagos State

In Lagos State, despite the comprehensive health policies aimed at coping with health care delivery services, breast cancer awareness campaigns only came to limelight in 2004 with a campaign in Ogudu primary school in Kosofe Local government area of the State. This initial work is being built upon by the Lagos State Government with installation of detecting machines (Mammogram) in the State in Ikeja and Orile-Agege General Hospitals. Non-government organizations such as Care Organization Public Enlightenment (COPE), Bloom Cancer Care and Support Services, Medical Women Associations and other individuals are all into creating awareness on the disease.

It seems, nevertheless, that breast cancer is not restricted to a particular gender or age. It is a major health problem globally and the major cause of death among women (WHO Global Cancer Rates, 2006) Perhaps this finding explains why the disease is claiming the lives of many women because when all known risks factors and characteristics such as obesity, smoking, high fat diet and changes in life style are added together with genetics and family history, up to

50 % of breast cancer remain unexplained. This makes the problem alarming and worrisome because the main cause of the disease has not been ascertained. Linked to this is the ignorance of women who believe that symptoms would normally accompany diseases, as is the case of malaria and other related sicknesses. In support of this position, Vernon et al (1993) discovered that many women reported that they did not think about the high risks involved in breast cancer since there were no signs and symptoms.

1.2 Statement of the problem

To reduce the spread of breast cancer disease and its attendant consequences, Adult Educators in health systems and Organizations in Lagos State have been, in recent times, actively involved in intensive campaigns and awareness creation. However, women seem not to be sufficiently aware of the disease, and this seems to have further inhibited positive perception of the condition and the various intervention techniques thereby culminating possibly, in high prevalence in Lagos State. The seemingly noticeable gap in knowledge, in terms of awareness, perception and acceptance of various intervention techniques might have been compounded by paucity or scanty literatures and rare studies on psychosocial analysis of breast cancer. The issue therefore is "How prevalent is breast cancer in Lagos State and is there adequate awareness about it? To determine these, variables such as awareness of women about the disease, their perception about it, its prevalence within the study

area and the perception about the various intervention techniques designed to control the spread of the disease are focal points for consideration.

1.3 Purpose of the study

The study aims to determine

1. whether educational background of women play any role in acceptance of breast cancer awareness programmes,
2. the extent of awareness of the disease and regularity of the practice of Breast Self Examination (BSE) and Clinical Breast Examination (CBE) by women in Lagos State.
3. the level of prevalence of breast cancer from available records in major hospitals,
4. the effect of Occupation/Profession on incidence of breast cancer,
5. the belief of women in Lagos State in the use of local and conventional means of breast cancer intervention
6. the psychosocial determinants of awareness and prevalence of breast cancer disease and
7. the effect of religion on women's willingness to participate in awareness and examination programmes.

1.4 Research Questions

The study was guided by the following questions:

1. Does awareness of breast cancer depend on level of education of women in Lagos State?
2. What is the level of awareness of women about breast cancer and how consistent are they in the practice of breast self-examination and clinical breast examination despite the activities of Adult Health Educators in the health sector?
3. What is the prevalent rate of breast cancer in Lagos State?
4. What is the effect of occupation or profession on the prevalence of breast cancer?
5. How do women in Lagos State perceive the use of local and modern approaches to breast cancer intervention?
6. What are the psychosocial determinants of breast cancer prevalence, awareness and perception in Lagos State?
7. Will religious affiliation determine women's readiness to present themselves early for proper clinical examination and surgical removal of the breast?

1.5 Research Hypotheses

The following null hypotheses were posited and tested.

1. Women's level of education has no significant influence on their willingness to imbibe breast cancer awareness programmes.
2. Despite activities of adult health educators in the health sector, women's awareness of breast cancer does not significantly

affect their practice of breast self examination and clinical breast examination.

3. There is no significant difference in the prevalence of female breast cancer disease across all age – groups studied in Lagos State.
4. Prevalence of female breast cancer has not changed over the periods studied in Lagos State.
5. Women's occupations have no significant influence on diagnosis of breast cancer.
6. Women's fear, anxiety and belief do not significantly affect their involvement in breast cancer intervention techniques in spite of adult health educators' activities.
7. Women's religious affiliations do not influence women's readiness to present themselves for clinical breast examination and surgical removal of the breast.

1.6 Theoretical Framework

There are various theories used to explain the reasons behind imbibing health preventive practices. For this study, the principles behind individual's willingness to imbibe any preventive method are examined within the framework of Rosenstock's Health Belief Model and Laventhal's Self-Regulatory Model (SRM).

The Health Belief Model (HBM) (Rosenstock 1994)

The health belief model was described as the grandparents of all health behavior change models (Peterson and Clemente 2000) This model was developed by psychologists in the 1990's, in the United States Public Health Service. They wanted to understand why people fail to participate in programmes designed to prevent or detect diseases. Later the HBM stretched its tentacles to account for reasons why people do not respond to symptoms by obtaining necessary medical care and to help explain why people do not follow medical regimes.

It is a model of conscious decision-making that has been applied with success to a variety of health threats in both healthy and ill populations.

Assumptions

The model believes that people will engage in preventive behavior if

a. They feel susceptible to a health condition
b. They believe the condition in question, is characterized by a high level of severity (e.g. negative health outcomes)
c. They feel engaging in preventive behavior outweighs the benefits derivable from it.

That is, perceived susceptibility involves one's subjective perception of the risk of contacting the health threats in question. Perceived severity refers to perception of both the physical and social

consequences such as death and pain. For example, the effects that the disease will have on social relations and family life if left untreated.

Perceived vulnerability determines 'readiness to act' which is a type of joint function of perceived susceptibility and perceived severity. Perceived vulnerability provides energy or force to act. According to Rosenstock, Strecher and Becker (1994) Health options are evaluated in terms of their perceived benefits and costs. The benefits involve beliefs about the effectiveness of available options for reducing the threat of the disease. Cost involves any potentially negative aspect of a particular health action (for example pain, expenses, danger, stigma, side affects, and inconveniences) This signifies that even if the individual feels vulnerable to a potentially serious condition, they will not change their behavior (for example, adopt preventive measures) unless the perceived cost benefit ratio for doing so is favorable.

Relevance of the Theoretical Model to the Study

The HBM of Rosenstock (1994) theory adopted for this study is relevant in the following ways:

- The HBM helps in understanding why people fail to detect and prevent diseases.
- Lack of willingness to respond to symptoms and
- Reasons why people will engage in preventive behaviours.

Laventhal's Self-Regulatory Model (SRM) (1997)

This theory proposes that individuals actively generate cognitive and emotional representations of health threats and that these representations guide and regulate behavior. The model indicates that internal stimuli (for instance, the experience of symptoms) as well as stimuli from the environment (such as risk information, witnessing a relative's illness), may trigger cognitive and emotional representations. Based on these representations, individuals derive an action plan to cope with the threat they perceive. The success of a particular coping strategy is appraised and fed back into both the representation and the action plan, which may be modified accordingly.

In addition, SRM enables a greater understanding of the meaning of risk by focusing on what individuals perceive they are at risk of. It also enables one to explore the cognitive and emotional outcomes of individuals. Initial work on SRM suggested that cognitive illness representations are organized round five dimensions.

a. Identity of the symptoms associated with the illness.
b. Timeline, which has to do with beliefs about the duration of the illness.
c. Consequences of beliefs about the effects of the illness.
d. Control/cure or belief about it's controllability and recovery
e. Cause of the illness.

These perceptions have been found to predict psychological well-being in patients with chronic fatigue syndrome and Rheumatoid.

Levanthan (1997) saw illness perceptions as important predicators of psycho-social responses to awareness and taking prevention measures, independent of objective illness severity. Causal beliefs about the disease have also been associated with adjustment to illness.

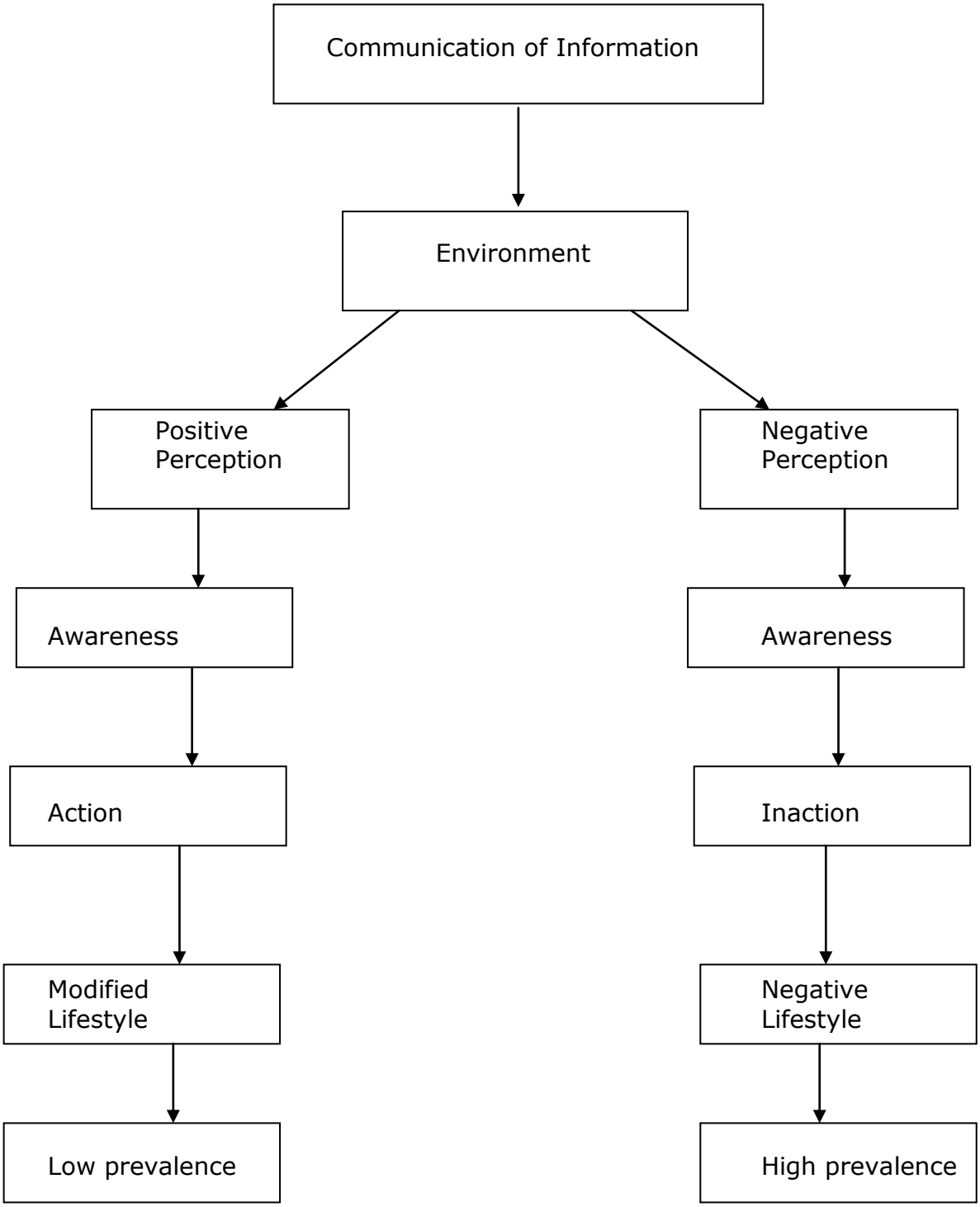
Relevance of the Theoretical Model to the Study

Levanthals' SRM (1997) theory adopted for this study is relevant in the following ways.

- It elaborates on individual's perception about health threats that guides and regulates their behaviours.
- It also enables one understand the meaning of risks and how individual perceive what they are at risks of.
- Illness risks perceptions are predicators of psycho-social responses to awareness and taking preventive measures.

There is however, need for knowledge through information dissemination to arouse the individual's desire to do something on the spur of the moment and consistently. The variables for knowledge transmission and prevention of breast cancer consider barriers to information adoption such as perceptions revealed in the individual's feelings and fears regarding life threatening diseases, societal influence, and cultural beliefs. To guide this study therefore, the conceptual model below was adapted from the Rosenstock 1994 Health Belief Model theory and Laventhals' Self Regulatory Model of 1997 and used for the study.

Conceptual Model on Psycho-social Determinants of Breast Cancer Prevalence, Awareness and Perception



Source: Adapted from Rosenstock (1994) and Laventhal (1997)

The conceptual model above indicated that the psycho-social factors determining breast cancer prevalence, awareness and perception are "communication of information" made available to an individual. This information goes into the environment and is influenced by either positive or negative perception. Which ever way the information is perceived, awareness is created. If the individual has a positive perception, the awareness will progress to positive action and consequently the lifestyle of the individual will be positive culminating in low prevalence. On the other hand, if the perception is negative, it will lead to inaction. This leads to negative lifestyle and ultimately to high prevalence. These identified psycho-social factors interact to determine prevalence, awareness and perception of breast cancer in Lagos State

The quality and quantity of information received about breast cancer disease determines the acceptance or otherwise of breast cancer awareness, it's prevalence and perception among the people. The language or medium and mode of communication influence a great deal the acceptance of such information.

According to the conceptual model, information goes to the environment. In the Environment, many factors influence the reception of the information. These factors such as the belief system of the people, social norms and perception of the people about the focus of the information and other societal factors acts as hindrances to awareness which goes a long way to determine the attitude of

women towards such programmes. The environment also determines the kind of information received and how the individual reacts to such information. An individual living in an isolated environment for instance has limited access to information when compared with another individual in an open environment where information is freely disseminated.

Perception of a disease is a strong determinant of whether information received will be adopted or not. These factors are society based and very much part of the African culture. Education is needed as a catalyst to break the myths surrounding all these perceptions. However, when adequate information is communicated with the right methodologies giving consideration to these psycho-social considerations, then the barriers are removed, awareness created which in turn leads to enlightenment. It should be noted however, that awareness creation in an environment may lead to both positive and negative perception. Perception and identification that uses cognitive appraisal represent the ability to understand the intensity or severity of the problem associated with the disease. This necessitates adopting an action plan i. e. the steps an individual takes towards effecting modification in lifestyle that is a major risk reduction determinant. This in turn brings about breast cancer risk reduction for high-risk women and reduction in mortality rate.

On the other hand, awareness created could lead to inaction when the information transmitted is wrongly or negatively perceived. Adult

education can be used to disseminate the right kind of information which will change the wrong perception This in turn leads to negative lifestyle and high prevalence in such communities.

1.7 Significance of the Study

The findings of the study will help in guiding adult health educators in designing awareness programs that will be instrumental in executing breast cancer awareness and intervention. It will provide relevant data and suggestions necessary for education of women on prevention, early detection and accepting intervention techniques of breast cancer with a view to helping them have positive change in life style, which is a major risk factor. Results will constitute vital reference document for adult educator researchers, organizations and all other groups interested in undertaking researches, and or developing educational packages or programmes for women around prevention, detection, treatment access and options as well as lifestyle modifications.

1.8 Scope

The study will concentrate on determining the prevalence, awareness and women's perception of breast cancer and its intervention techniques in Lagos State. Women across board, Government and Non-governmental organizations and caregivers will serve as respondents for the study.

1.9 Delimitations of the Study

The study includes selected local government Areas of Lagos State and no medical examination is intended because it is an assessment study on the prevalence, awareness and perception of breast cancer in the State.

1.10 Operational Definition of Terms

Management: For the purpose of this study, this term should be understood as women's ability to handle or control breast cancer disease, accept screening and preventive measures.

Healthy lifestyle: The study uses healthy lifestyle to indicate steps, actions and strategies women put in place to achieve optimum health that is, taking responsibility and making smart health choices.

Prevalence: This concept is to be understood as rate of breast cancer diagnosis for a specified period of time.

Perception: Should be seen as women's understanding of the disease, its causes and effect.

Awareness programmes: These are information or knowledge passed on to people about breast cancer in an organized way.

Psycho-social factors: These factors are used to indicate attitudes, beliefs, fears and societal influences such as behaviors, predispositions, taboos, belief systems about causes of diseases and how families, neigbhours and the environment in general view breast cancer.

Mastectomy: Surgical removal of the breast after breast cancer diagnosis

Intervention techniques: Those activities put in place by the individual woman or medical care givers to detect breast cancer or prevent it from spreading.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter is an over-view of works that encapsulates the ideas, views and theories of different authors in related areas as follows:

- Breast Cancer Characteristics, causes and Effects
- Is breast cancer communicable?
- Risk factors Associated with breast cancer.
- Breast cancer risk perception
- Perceptions and importance of Intervention techniques.
- Preventive intervention for breast cancer
- Guidelines for breast cancer patients.
- Side effects of breast cancer intervention techniques
- Comparative study of intervention techniques for breast cancer
- Psycho-social tendencies of women with breast cancer
- Causes of prevalence of breast cancer
- Concept of Health education
- Need for breast cancer education
- Implication for breast cancer education for women
- Efforts towards widening the scope of breast cancer education

- Relationship of Breast Cancer Study to Adult Education
- Role of Adult Education in Breast Health
- Factors affecting acceptance and adoption of breast health preventive education
- Theories of Health Behaviour change.
- Influence of knowledge on awareness, perception and prevalence of breast cancer.
- Summary

2.1 Breast Cancer Characteristics, Causes and Effects

Breast cancer is a malignancy of the breast common in women. Olopade (2004), Durosinmi (2004), Attah (2007), Onajole 2006). It occurs when cells in the breast begin to grow out of control and can invade other tissues such as duct glands or spread through the body. These changes of the genes are responsible for cell growth and repairs and are the result of the interaction between genetic factors and external agents. (Lagos state Ministry of Health in conjunction with Lagos State Ministry of Women Affairs and Poverty Alleviation (WAPA), American Cancer Society (2004), WHO (2004).

Breast cancer is of various types. Some are more deadly than others. The various types of breast cancer are Ductal Carcinoma in Situ (DCIS) which is the most common type of non – invasive breast

cancer. It is the early onset of breast cancer in the milk duct which can be detected by mammography and normally easy to cure. Invasive Ductal Carcinoma is a cancer that started in the milk duct in the breast regions but has now spread beyond there to other parts of the breast. Lobular Carcinoma in Situ is not considered cancerous, but is a pre-cancerous condition. Most women with this condition do not get breast cancer but have an increased risk of getting it so there is need for frequent check ups to eliminate its possibility.

The Invasive Lobular Carcinoma is a cancer that starts in the lobules and has spread. This type of cancer is difficult to diagnose as they do not always form a lump or show upon mammography.

Breast cancer has definite stages of development in a person's body.

Stage 0 is the initial stage limited to the topmost cell layer and the 5 – year survival rate is about 90%.

Stage 1 breast cancer is a cancer that is less than two diameters with no evidence of spread. The survival rate is 85%.

Stage 11 breast cancer is the point at which the cancer is two to five centimeter in diameter or the tumor is less than two cm, but there is a spread of the cancer to the lymph node under the armpit. For this stage, the 5 – year survival rate is 60%.

Stage 111 indicates that the cancer is more than five cm in diameter or the lymph nodes involved are fixed to themselves or to other tissues such as the skin or muscles. The 5 – year survival rate is 40%.

Stage IV depicts a cancer fixed to the chest wall or overlying skin that has also metastasized to lymph nodes above the collarbones such as the liver, lungs, bones or brain. The survival rate is less than 10%.

Generally, some symptoms are associated with breast cancer. These include: Changes in the size or shape of the breast, dimpling of the breast skin, the nipple becoming inverted and physical evidence of swelling or a lump in the armpit. Other noticeable symptoms are the fact that the breast will have some redness. Noticeable yellowish fluid coming out from the nipple of the breast at a time one is not a nursing mother or in pregnancy among others.

Medically, a lot of methods can be used to diagnose breast cancer condition. The Association for International Cancer Research (2004) in Scotland listed methods such as Breast Self Examination (BSE), Clinical Breast Examination (CBE), Mammography and taking of a biopsy i. e. a tissue sample. This last option is achieved when a needle is pushed into the breast lump discovered to capture a tiny sample of the tissue. This is examined under a microscope and the shapes and appearance of the cell in the tissue sample reveals whether the lump is benign or cancerous. Breast self examination (BSE) is a method whereby women, on a personal basis, examine their breasts monthly. This necessitates the setting apart of a particular day in the month, particularly after the monthly period women experience for the self-examination.

The chosen date must be adhered to in this exercise for best result. A menopausal woman is expected to decidedly choose a particular date of every month she feels adequate for her. For instance, if she chooses the 4th of a particular month, consequently, 4th of every other month will be used for her self examination.

The Clinical breast examination (CBE) is examination of a woman's breast by a trained medical personnel in a designated hospital. This is normally done every year. The mammogram is also called screening and could be done also in a hospital where a mammography machine is available. It reveals more than the BSE or CBE could. All these help in early detection of breast cancer

2.2 Is Breast Cancer Communicable?

There are divergent thoughts as to whether breast cancer is communicable or not. The first school of thought is of the opinion that breast cancer is communicable while the other believes that it cannot be sexually transmitted.

Skatssoon (2006) belongs to the first school of thought and he wrote that breast cancer may be sexually transmitted. This researcher and colleagues found the same virus that causes cervical cancer in breast cancer tumors from Australian women. They also found the same form of the human papilovirus (HPV) associated with cervical cancer in almost half the breast tumor samples they treated. International studies have also found cervical related HPV in breast cancer cells. Ten studies since 1999 have identified the human pappilovirus in

breast cancer tumors. In 2005, the result of a DNA analysis found various forms of high risk HPV identified in ten separate breast cancer studies in 1999 was published. (Lawson 2005)

Another publication in the *British Journal of Cancer* reviewed the 2005 study and discovered that women with HPV positive breast cancer were on the average about eight year younger than those whose tumors did not test positive to the virus.

Lynch, Schuelkell and MiehaGik (2008) documented that from recent development in cancer epidemiology, there is a possibility of an exceedingly complex communicable factor in breast cancer etiology. Likely candidates who support this position include salivary gland tumor among the Eskimos and acquired immune deficiency syndrome (AIDS). Etiology agents, according to Lynch and colleagues remain elusive though epidemiology suggests possible infectious transmission as hereditary etiology were noticed in dominantly inherited familial multiple Cells.

However, the second school believes that breast cancer cannot be transmitted from one person to another. Komen,(2007) writing in the Advocate Health Care on Breast Cancer Myths, declared that breast cancer is not communicable because it results from uncontrolled growth of cells in a person’s body. These changes cannot affect other people’s cells.

The definition of communicable diseases is an illness or infection that can be spread from person to person, animal to person, animal to animal or person to animal. It includes diseases such as HIV/AIDS, Hepatitis, Tuberculosis, Influenza etc. On this note, the World Bank, WHO, UN and other renowned international organizations which are strategic development partners in health care delivery see breast cancer as a non-communicable disease. This stance determines their focus of operation and the strategies they will employ. For instance, if they believe it is transferable, then a lot of preventive measures will have been put in place as has been done in the case of HIV/AIDS. However, the generally acceptable notion is that breast cancer cannot be sexually or otherwise transmitted, though the disease cannot be traced to a particular cause.

2.3 Risk Factors Associated with Breast Cancer

Are there risk factors associated with breast cancer? Can life-style and other physical phenomena affect or become a risk factor to developing breast cancer?

A study was carried out to investigate the association between risk factors and breast cancer in Turkish women. 405 patients with histologically confirmed breast cancer were compared with 1,050 controls that were admitted to different departments of the same hospital. The risk factors found indicated that 75% use of alcohol, 95% history of disability, 95% for hypertension, oral contraceptive use such as hormonal replacement therapy (HRT) were major causes

of breast cancer. This is according to Bell, and Reis, (2007) The indication is that history of diabetes, hypertension, use of alcohol, never having breastfed and delayed age at first birth associated with changing life style led to an increased risk of breast cancer in these women.

Okobia (2004) Olopade, (2004), Attah (2005) attributed poor knowledge of breast cancer and minority practice of Breast Self Examination and Clinical Breast Examination, as risk factors. Included in this list also is late presentation of breast lumps which cause high mortality rate despite the fact that breast cancer is lower in African American than in Caucasian American women. Newman (2005) wrote that mortality rates are paradoxically higher in African-America women and these groups of women face greater risk of being diagnosed with early onset disease. Though the causes and natural history remains unclear, epidemiological research has uncovered genetic, biological environmental lifestyle as risk factors for the disease. Despite the fact that most of these studies were undertaken in Europe and North American, yet studies conducted in other African countries such as Kuala and Malaysia according to Noor, (2001) confirms these patterns.

Studies have revealed also that the first age at birth and surgical menopause had similar association with breast cancer risks; however they wrote that family history and age at menarche show themselves in different forms as risk factors. A relatively younger age at

menarche has also been reported for African- American women but the impacts have not been defined. It is nevertheless known that breast cancer risk clearly increases as a function of age though African women under the age of 45 years have greater incidences than Caucasian American in this young age range. Olopade,(2004), Okobia (2004) The occurrence is however believed to equalize during the fifth decade of life, yet for women over the age of 50 years, incidence rates for Caucasian Americans surpasses those for African American resulting in an over all life time risk.

Investigators like Pathet (2000) correlated the short- term increase in breast cancer risk that occurs in the post-partum period with menopausal breast cancer risk. They hypothesized that the higher prevalence of early child bearing observed among African-Americans when compared with Caucasian American account for the higher incidences of early on-set breast cancer. Palmer (2003) Yusufu (2004) documented that there is a dual effect of pregnancy on breast cancer risk. Multi-parity increases breast cancer risk prior to 45 years of age but can protect against breast cancer risk after age 45. Age and previous history of breast cancer increased the risk of developing it a second time by 16 times. Furthermore, nulliparous women have 50 % increase risk. In addition, it was discovered that women who deliver at early age have a reduced risk. Yussuf (2004) Ferlay and Schwatsmann (2005) noted that breast-feeding seems to protect against pre-menopausal forms of breast cancer. The longer breast-

feeding takes the better for the woman. Obesity, positive family history of breast cancer in the mother or sister increases by 50 % the risk in post-menopausal age group. Norman, (2005) Ferley and Schwatsmann (2005) also wrote that first and second-degree family history of breast cancer has comparative strength against risk factors respectively. A woman is likely to develop breast cancer if her mother or sister had it before age 50 and their risk doubles if two immediate family members had it. While this risk may have genetic components, genetic mutations appear to account for only five percent of all breast cancer cases. These studies mentioned above concluded that women are four times likely to develop this condition if they have a history of certain types of benign cancer.

Exposure to ionizing radiation and certain environmental exposures around menarche are strong factors for risk of breast disease. This increases the risk factor if a typical dysplasia is present on histology. This was 1kpah, (2002) Coe, (2003) and Ferley (2005) assertion. They further wrote that intake of saturated and dietary fats, alcohol intake, high cholesterol level and smoking may also increase breast cancer risk while frequent vegetable and fruits consumption may decrease it.

Western populations that consume low fat diets experience less risks of breast cancer. Ferley (2005) gave examples of Japanese women who exposed their teenagers to atomic bomb blasts. These teenagers developed this condition overtime. So early exposure to radiating

treatment at a younger age may have a cumulative effect and develop to breast cancer later in such women.

According to Ferley and Schwatswann (2005) hormones, especially estrogens play a crucial role in the development and growth of breast cancer and they may be common factors behind the many reproduction variables associated with breast cancer. The more years a woman is exposed to hormones during her lifetime, the greater her risk of developing breast cancer. Women are two times likely to get Breast Cancer if they reach menopause after the age of fifty-four and three times more likely if they have their first child after 40 years of age. Abrupt hormonal changes, which accompany induced abortions, according to them, might increase the risk of breast cancer.

Some research works explored the link between breast cancer and common hormonal supplements or oral contraceptives and hormones replacement therapy.
When cancer is diagnosed among users of hormonal drugs, these cancers are likely to be advanced than that diagnosed among non-users. This condition heightens the interest in the role of genetic factors in the etiology of breast cancer in general and in people of African in particular (Adebanowo and Ajayi (2002)

According to the World Cancer Report (2005), action on smoking, diet and infections can prevent $^{1}/_{3}$ of cancers and another $^{1}/_{3}$ is

curable. The World Health Organization indicated that cancer rate could increase by 50 %, that is, increase to 15 million by 2020 (News release 2003) this estimation is the most comprehensive global examination of the disease till date.

Ikpah's (2003) view on lifestyle and its cumulative effect on breast cancer was corroborated by Abdul (2007) who agreed that the quality of life of individual, apart from history of breast cancer in the family increases or reduces risk factors. Though all women are prone to having breast cancer, it is nevertheless pertinent to note that lifestyle, awareness creation, early detection, presentation at the hospitals and provision of adequate health facilities by the government at both urban and rural centers with well qualified personnel can help stem the spread of breast cancer in our community (Adebamowo and Ajayi (2000), Olopade et al (2004), Onajole (2006), Oluwastosin and Oladepo (2006) and Orija (2007).

Breast Cancer Prevalence

The change in global patterns of female breast cancer incidences and mortality could be due to consequences of differences in a range of socio-economic activities in the population and prevalence of several reproductive, hormonal and nutritional factors (Bray, 2004).

Studies undertaken on migrants revealed that environmental rather than genetic determinants were responsible for most of the seen international and inter-ethnic difference in breast cancer prevalence. This conclusion was reached when researchers compared low risks of

Asia population who migrated to the high risk United States of America. The research revealed that offspring of the migrants had major increase risks between their successive generations and these increases were from European countries with relatively low incidences (Italy and Poland) after migration to Australia, particularly if the migration took place in child hood, the risk of breast cancer increased.

There are clear evidences, that healthy life style, and public health action by government and health practitioners, could stem this trend and prevent as many as $^{1}/_{3}$ of cancers world-wide. In a recent analysis by the International Agency for Research on Cancer (I.A.R.C) on working group conducted under trial conditions, it was revealed that mammography screening may reduce breast cancer mortality by 25-30%. In addition, if nation-wide screening programs are conducted, there could be a reduction of 20%. There is therefore need to embark on awareness campaigns and educational programmes on typically early symptoms and detection. According to the World Cancer Report (2006) there is much potential in early detection, treatment and palliative care. The prevalence and incidence of breast cancer was found to increase with increasing age. Ikpah (2002) experimented with 300 patients who had histological confirmed invasive breast cancer at University of Calabar in Nigeria from 1983-1999. A large fraction of the patients were pre-menopausal i.e. 74.3% with average follow up time of 25.9 months

and a survival rate of 71.3 % was observed. This finding among women in Calabar (Nigeria) was compared with Finnish women and it was discovered that reproductive factors seemed to influence the occurrence of breast cancer in a similar fashion. There was lack of diagnostic instruments, however, in the two countries, which compounded the problem of diagnosis and treatment.

2.4 Breast Cancer Risk Perception

Perception, according to the Wikipedia free encyclopedia, is a process of attaining awareness or understanding of sensory information. It has its origin from a Latin word "percepio" meaning receiving, collecting, action of taking possession, apprehension with the mind or senses. In essence, one's perception is a result of interplays between past experiences, one's culture and the interpretation of the perceived. Perception of risks could also be subjective assessments of information that help individuals make sense of their vulnerability and reach decisions about health behavior (Weinstein, 1999).

According to Vernon, (1999), many factors influence individuals' risk estimates among which are risk perception inaccuracy related to a variety of factors including misinformation or a lack of knowledge, personal experiences and beliefs, and cognitive processes or biases that work to minimize threats. Based on the assumption that accurate risk perceptions lead to desired health behavior, many people now possess more accurate understanding of their health

risks and this has become one of the key goals of risk communication in health education particularly on breast cancer. Despite the importance of risk perception in theory of health behavior and the extensive research that has been undertaken to study risk perceptions, standard measures of breast cancer risk perception have not been consistently utilized. The use of a variety of assessment procedures to risk perception and its accuracy may contribute to conflicting research findings.

In general, Bowen, Hickman, and Powers (1997) Waston, Lloyd, Meyer, Eeles, Ebbs and Murday (1999), wrote that there are two approaches used to assess breast cancer risk perception accuracy. These are women's personal estimates of their risks for breast cancer directly compared to objective risk estimates e.g. the Grail model or cumulative incidence rate of 1:9 which identifies those who under and over estimate their risk. Women are expected to compare perceived personal lifetime breast cancer risk estimates with those of women whose perceived personal risk estimates were within 10% of their Grail score and who were classified as "accurate". Perceived risks beyond this range were classified as "under estimation" and "over estimation". This has been commonly used to provide a reasonable margin within which responses are labeled as accurate. Kreuter and Strecher (1995) Daly (1996) and Stalmeier et al (1999) documented this assertion. Alternatively, women have been asked to compare their own breast cancer risk to that of the "average

woman" or the average woman of similar age using qualitative or numerical assessment procedures (Evans, Burnell, Hopwood and Howell (1996).

This second method which was based on the work of Kreuter and Strecher (1995) takes into consideration comparisons between women's absolute judgments about their breast cancer risk and "average women's breast cancer risk (comparative perceived risk) and comparisons between their individual Grail risk estimates and population Grail risk estimates for women of the same age (comparative objective risk) to identify accuracy of risk perceptions.

However, the prevalence of breast cancer risk perception accuracy varies depending on the classification strategy used. This suggests that the method of assessment may play a role in this variability. McFaul and O'Donnell (1998) Understanding breast cancer perceived risks lead to ultimate actions that determine survival of women as it concerns breast cancer. Oluwatosin (2006) undertook a descriptive study that assessed rural women's perception of breast cancer in two rural community health districts in Ibadan, Oyo State of Nigeria. Data were collected through structured questionnaires. 407 women were randomly selected for the study. The results showed that 66.2% of the respondents considered breast cancer as being more prevalent than all other cancers. Respondents' perception of risks of developing cancer was low as 64.8% rated themselves 1, on a scale of 1 to 9

(where 1 = does not perceive herself to have cancers, 9 = very much perceived herself to have cancer). Perceived cause, according to the study included putting money in braziers, attack from the enemies and others. None of them identified early detection as an advantage of Breast Self Examination. Swelling was the most acknowledged sign of breast cancer. This study showed that perception of the disease was misplaced. Seele (2002) is of the opinion that breast cancer is being perceived as contagious. This increases isolation of sufferers. Many of our philosophies center round karma i.e. cancer comes on offenders and these offenders are reaping what they sowed. This belief renders the individual impotent and they take whatever comes on then as due without taking any step to amend or change the perceived situation. Attah, (2002) after a campaign undertaken with a team of medical practitioners, educationists and government officials in the eastern part of Nigeria, which began from Calabar, wrote that it was through the campaign women had a first mention of the truth about breast cancer. According to him, diseases were attributed to the works of evil or bad spirits and induced from the spirit world. Leshner (2006) also formed discussion groups with women in a study he undertook in the South-Eastern states of Nigeria in which community dwellers perceived witch craft, supernatural forces, fate and reincarnation as causes of breast cancer. This perception did not allow the women to visit the hospitals. Cancer is also perceived as a death sentence from the spirit world.

Risk perception is a significant component of awareness of breast cancer risks. This risk perception can help reduce unnecessary deaths. Ceber, Soyer Cicekliogl u, and Cimat of the school of health, Ege University in Turkey did a study aimed at discovering the level of perceived and calculated breast cancer risks and provide data on the practice of BSE and use of mammography among nurses and midwives working in 23 Primary Health Care centers in Turkey. The result of the investigation showed that the level of perceived risks of nurses and midwives was higher than that of calculated risks. Considering that participants were health care professionals, the use of Breast Self Examination and mammography practices as preventive behaviors by nurses and midwives was lower than expected.

A study conducted by Swe and Kim (2008) of the University of California, San Francisco, on various cancers ranging from colon, breast cancer and cervical cancer used personal interviews and telephone conversations as techniques for data collection. All the discussions centered on breast cancer and a total of 1,160 respondents aged between 50 and 80 with average age of 61 were used. Perceived personal risk for each cancer was measured on a word scale (no risk to very high risk) and compared with self-reported screening belief by ethnicity of the women. 339 (29%) were white, 167 (14%) were African American, 239 (21%) were Latinas

and 416 (36%) were Asians. Perceived risks for each cancer varied by ethnicity and Asian women had the lowest perceived risks for breast cancer while Latinas had the highest perceived risk for colon cancer.

Though, breast cancer is the leading cause of death among women in many parts of the world today and it is the most common cancer in women in Nigeria, it however lends itself to early detection and subsequently early treatment. Oluwatosin, (2006) People's perception of this disease and its' early detection measures will influence their ability to perform the preventive measures.
Understanding one's actual risk for breast cancer is important because it allows women to make informed decisions about preventive action and health care delivery system. This enhances appropriate participation in recommended screening. (levanthal et al 1999, Lipkus et al, 2001; Hopwood, 2003)

Further-more, knowledge of one's actual risk may enhance quality of life among those who experience heightened level of stress and anxiety relating to over-estimates of their risk for breast cancer as well as reduce unnecessary use of health-care services (Kreuter and Strecher, 1995)

2.5 Perceptions and Importance of Intervention Techniques

Breast cancer intervention techniques are modalities used to either assist breast cancer patients to have better quality of life or to interrupt the onset of breast cancer in women. Many studies have been undertaken to determine the effectiveness of various intervention techniques used for breast cancer. Some of these studies are related here.

The London Psycho-social Group, Institute of Psychiatry, Kings College in St Thames's hospital U.K. designed an intervention to address the factors associated with delayed presentation by women with breast cancer. The risk factors were placed in a theoretical framework to understand patients' delay. This intervention incorporated behavior change techniques that according to previous research have been demonstrated to be effective. The objective of the above study was to design a psycho-educational intervention to promote early help-seeking by older women with breast cancer symptoms and also to demonstrate the feasibility of implementing the intervention with women attending their final invited mammogram in the nation's health service breast screening programme. It was developed in two formats to be delivered by diagnostic radiographers. It included a booklet alone on one hand and a brief interview with a booklet on the other hand. This intervention proved acceptable and very useful for older women and

health care professionals. The study was undertaken by Bush, Hunter, Salkovskis, Michell, Whelehan, Ramire (2004).

Another study was undertaken by Green, Percerson, Baker Harper, Fredman, Robinstein, Wendy et al (2004) to compare the effectiveness of a computer-based intervention designed with standard genetic counseling for educating women about BRCA1 AND BRCA2 genetic testing, conducted between the year 2000 and 2002. The study enrolled 211 participants in the US medical center, with personal family history of breast cancer. Intervention standard using one on one counseling (n=105) or education by a computer program followed by genetic counseling (n=106) Main outcome measures were participants' knowledge, risk perception, intention to undergo genetic testing, decision at conflict, satisfaction with decision anxiety and satisfaction with the intervention. Testing decisions were assessed at 1 and 6 months. Prognosis or outcome was analyzed by high versus low risks of carrying a BRCA1 or BRCA2 mutation. The result showed that both groups had comparable demographics prior to computer experience, medical literacy and baseline knowledge of breast cancer and genetic testing. Both computer use and counseling were rated highly. Knowledge scores increased in both groups ($p<001$) regardless of risks status and change in knowledge was greater in the computer group compared with the counselor group (P=03) among women at low risk of carrying a mutation. Perception of absolute risk of breast cancer decreased significantly after

intervention among all participants. Intervention to undergo testing decreased significantly after either intervention among low risks women. The counseling group had lower mean scores on a decisional conflict scale (P=04) and in low risks women, higher mean score of satisfaction with decision scale (P=04) and anxiety scores were reduced by counseling but were within normal ranges for both groups at baseline and after intervention regardless of risk factors. The conclusion was that an interactive computer program was more effect than standard genetic counseling for increased knowledge of breast cancer. Counseling was more effective than the computer at reducing women's anxiety and facilitating more accurate risks perception. This suggests that computer program has the potential to stand alone as an educational intervention for low risks women but should be used as a supplement for genetic counseling for those at high risks.

Leshner, Carver, Anthoni, Weaver and Phillip examined the development of positive and negative perceptions of breast cancer from the time of biopsy and diagnosis through treatment phase. In addition, they examined the construct of benefit – finding which revealed the perception that having cancer have certain benefits such as deepened personal relationships, enhanced personal strength and clearer priorities about what is important in life. This they did to develop theoretical-driven and empirical-supported psycho-social intervention for women with breast cancer.

In a study by Chamot, Peneger (2002) to test the hypothesis that men may be less knowledgeable than women about breast cancer and mammography and have less favorable perceptions of mammography screening, a survey was mailed to 952 women and 370 men aged 40 to 80 years randomly selected from the general population of Geneva – Switzerland. Information collected included knowledge and perceptions about breast cancer and mammography, familiarity with screening recommendations and perceived usefulness of an organized screening program. Results showed among other things that both men and women perceived mammography screening to be useful.

Another study titled "The relation between projected breast cancer risk, perceived cancer risk and mammography use" with the objective to assess the association between routine mammography use, perceived cancer risk and actual projected cancer risk was undertaken. Women used were between 45-75 years of age and were recruited because they had responded to the 2000 National Health Interview Survey of their nation. Women who reported that they believed their risks of getting cancer in the future was "medium" or "high" risk and were considered "medium/high risk perceptors". Routine mammography used was defined as having three mammograms in the previous six years and logistic progression to determine the independent relation between cancer risk perception,

projected breast cancer risk and routine mammography use. The result was that out of 602 women who met the criteria of the study, 63.1% reported routine mammography use, about 76% in the highest quartile of projected breast cancer risks reported routine mammography use compared with only 68 %, 64 % and 51% in the 3rd, 2nd and 1st quartile respectively. After adjusting for indicators of access to care, socio-demographic and behavioral factors and perceived cancer risk, women in the highest quartile of projected cancer risks were significantly more likely to report routine mammogram use than women in the lowest quartile. Women with a higher perceived risk were significantly more likely to undergo routine mammography. Cancer risk perception according to the study seemed higher in women who were younger, obese, smokers, depressed or reported one of the following breast cancer risk factors such as family history of breast cancer, prior abnormal mammogram and early age at manache.

Studies were also conducted on other intervention techniques to improved quality of life of women with breast cancer. Barnardine, Dunsgar, Nash and Trask (2008) of the Miami hospital in Alpert Medical School in the USA did a research to determine the effect of exercises and relaxation intervention for breast cancer survivors. The objective was to assess the feasibility, acceptability and preliminary effects of 12 weeks combined program used for 23 early stage breast cancer survivors. 19 of them were retained for intervention and a 12

– 24 weeks follow-up. Participants received a theoretically grounded intervention delivered via telephone and the participants were evaluated on the intervention. Results indicated that it was feasible and acceptable with 100 % of the participants willing to recommend this technique to others. In addition, objective data also supported its feasibility as 87.3 % completed the trial, 91% of intervention calls were received. When comparing 12 and 24 weeks follow-up period for baseline data, participants demonstrated significant increase mood and sleep quality and reduced fatigue.

Mojininan (1997) quoting the American Cancer Society estimated 180,000 women in the United States to have been diagnosed of breast cancer and all these are treated surgically with biopsy. These procedures take place within a month between diagnosis and surgery. It was also characterized by extreme stress. This led the author to study to determine whether a multi modal psychosocial intervention provided during the pre-surgery interval affects immune and psychological functions.

It focused on strategy management techniques education and problem solving techniques to increase coping skills and group support.

This second study led them to hypothesize that women who receive the structural intervention would have enhanced natural killer (NK). The conclusion was that enhanced natural killer cell functions and cytokine production in patients undergoing surgery are of significance

because of their critical roles in decreasing morbidity and mortality chiefly by controlling infection and development of mestasis. A survey was undertaken to record the different assessment and treatment employed by occupational therapies (OTS) in a specialist center with the type and length of intervention recorded on a long sheet by each therapist over one-month duration. A significant amount of time was spent facilitating educational programs, teaching relaxation techniques and explaining strategies for managing breathlessness and fatigue. This intervention was found very effective.

A multi-media breast cancer education intervention for low-income Latinas (statistical data included) was conducted. This study was designed to evaluate the effectiveness of a multimedia method for testing low-income, low education Latinas about breast cancer screening. The intervention was interactive touch screen information and constituted an important part of the programme. This intervention was developed, based on the research literature that suggested Latinas' lack of knowledge, fear and misconceptions needed address in order to increase mammography-screening rate in this population.

In a study to determine effect of cognitive behavior stress management intervention and positive psychological changes in breast cancer patients after surgery and their physiological correlates

employed 99 women was undertaken in 2003. It involved stress management on benefit finding optimism depression and emotional processing for 10 weeks. The intervention provided training in relaxation techniques, coping skills and other stress management techniques in a supportive group. It reduced the prevalence of depression that remained relatively stable in the control condition. Also increased participation scores had increased generalized optimism. There was also increase in emotional processing during the intervention associated with greater increase in benefit finding. Antoni (2003)

Edwards, Hulbert, William and Nearl (2007) assessed the psychological intervention education on psychological and survival outcomes of women with metastic breast cancer. To assess this, five primary studies of 511 women were identified. Two of these were cognitive behavioral intervention and three evaluated support-expressive group therapy. The five studies of group psychological therapies showed very limited evidence of benefit arising from these interventions. There was evidence of short-term benefit for some psychological outcomes. In general these were not sustained at follow up. The conclusion was that there was in-sufficient evidence to advocate that group psychological therapies i.e. cognitive behavior or supportive expression should be made available to all women diagnosed with metastic breast cancer.

Some guidelines could however be followed for effectiveness of intervention techniques. For example, the Reuters' Business and Finance (2008) in American Society for Aesthetic Plastic Surgery gave some guidelines for breast surgery with special attention paid to any family with history of breast cancer. These guidelines include:

- Referred for further evaluation by a medical oncologist
- Women 40 and above should have a mammography prior to an elective breast procedure
- Breast augmentation, reduction and implantation may be significant in screening and surveillance specifically in regard to future mammogram evaluation
- Ultra sound studies may be used to further evaluate patients with difficulty or unsatisfactory mammograms

2.6 Preventive Intervention for Breast Cancer

Breast cancer preventive studies are clinical trials involving women who have not had cancer but are at high risk of developing the disease. Scientists hope to determine what steps are effective in reducing the risk of this disease in women of all races and ethnic backgrounds.

Most of the breast cancer preventive researches are based, according to the National Cancer Institute fact-sheet (NCI 2005), on evidence linking the development of this disease in many cases with the exposure to hormone estrogen. In this regard, drugs called aromatase inhibitors approved by US Food and Drug Administration

to treat hormones are been studied in clinical trials for breast cancer prevention. Scientists are also studying the basic biology of breast cancer to learn more about both non-hormone sensitive and hormone sensitive tumors. These researches are expected to lead to better ways of preventing all types of breast cancer.

Recognizing the impact of breast cancer on our society in Nigeria, in 1997, the National Cancer Institute (NCI) conveyed a breast cancer Progress Review Group, (PRG) of experts and advocates to analyze the NCI's breast cancer research activities and develop recommendations for the future. In 2004 an interim NCI breast cancer group assessed the advance made since the release of the PRG's report. They also assessed tools they believe can help women and their health providers estimate women's chances of developing breast cancer, based on several risk factors and information on drug use. For optimum prevention, doctors suggest that high-risk women be closely monitored and have regular medical check ups so that if breast cancer develops, it is likely to be detected at an early stage. Schachter (1996) wrote on the 5 – year survival rate of women with breast cancer. To him, it was virtually identical to what it was 30 years ago implying that in-spite of all the hype about early detection and the great advances in the conventional treatment of breast cancer there has been no significant improvement in treatment. According to him, in 1950, 1 in 20 women were diagnosed with breast cancer but as at 1996, 1 in 8 women were diagnosed. Rugo

(2000), Abdel-Fattah (2002) etc., also towed this line of thought. However, they believe that with the advent of improved efforts at prevention, screening and adjuvant therapies, breast cancer mortality had declined particularly in advanced countries. Breast cancer, according to Andhya and Ruthi, (2007) is a complex disease that results from the interaction of multiple environmental hormonal and lifestyle risk factors. Though one cannot modify inherited risk factors, yet most lifestyle factors are modifiable and are therefore opportunity for risk reduction, for many women.

Preventable intervention model is based on the degree of risk. Breast cancer risks are categorized as low to average, high and very high. Women at low to average risk have risk factors that confer no greater than a 1.5 fold relative risk of developing breast cancer while elevated or high risk includes women with a risk score of 1.66 % or higher, prior family history that includes one affected first degree relative. This risk score was arrived at using the grail model of 5 years risk scores. {Rugo (2000), Abdel-Fattah (2002)} It was submitted that weight loss or maintenance of ideal body weight (body mass index, 19 – 25 kg/m calculated in weight in kilograms divided by the square of height in meters) and moderate physical activity have been clearly shown to reduce the risk in adult women by approximately 30%.

The first step into prevention intervention is staging of the breast. Staging of breast cancer helps to predict the prognosis. I. e. the

outcome of the disease discovered from a conventional medicine point of view. It involves finding out the size of the cancer in the breast, whether it has spread or metastasized to regional lymph nodes and whether or not it has metastasized to distant organs, such as the liver, lung bones or brain. The primary prevention refers to methods used in preventing cancers from occurring in the first place, whereas secondary prevention refers to strategies devoted to early detection. Possible avenues of primary prevention for breast cancer, includes measures such as, lifestyle changes, chemo - prevention, and prophylactic surgery. This is according to Andhya and Ruthil (2007). It is worthy of note that newer modalities to prevent breast cancer are on the horizon and clinical trials that evaluate these modalities are positively trying to impact breast cancer incidences and mortality rates.

2.7 Guidelines for Breast Cancer Patients

There are documented guidelines for women on the issue of breast cancer. These guidelines are not necessarily meant only for diagnosed women but all who have ever had complaints about their breasts and those who are interested in preventing breast disease. According to these guidelines the women with significant breast complaints should be referred to a trained breast surgeon who should work in a multidisciplinary breast clinic. The clinic is expected to be staffed by individuals specially trained in the management of breast disease, supported by breast surgeons, radiologists, cysto-

pathologists and breast care nurses. Before diagnosis process, a detailed history with reference to the risk factor and clinical examination should be done. Clinical examination in only one part may not help to ascertain whether a lump is benign or malignant. Hence, the concept of triple assessment is universally recognized as the "gold standard" in evaluation of breast pathology. The components are:

a. Clinical assessment which includes a good history and thorough physical examination
b. Radiological assessment i.e. includes mammography and ultrasound scans.
c. Histopathological/cytopathological assessment i.e. pecutaneous core biopsy via a wide-bore needle under local anesthetic, using a spring loaded device or by fine needle aspiration.

This triple assessment yields a diagnosis in breast allowing subsequent definitive treatment or re-assurance according to Pereira, Banerjee, and Hanavadi (2005).

In managing breast cancer, Shockney (2000), documented things to look for in choice of surgery and they include:

a. choice of physician
b. Physician's attitude
c. Talk with other survivors
d. Multidisciplinary care and
e. Skill, knowledge, technology availability

Obviously, few of the risk factors for breast cancer are modifiable. Hence, they submitted that the key to overall survival lies in early detection. Breast awareness including self-examination and screening mammography helps detect the breast cancer at an early stage where the chances for cure, is greatest. Mammography's sensitivity is 83 % but according to researchers, it is considerably less in younger patients. Intervention options depend on the staging of the disease and its biological variables. Since there are many variables to consider each patients merit treatment on an individual basis. This is the multidisciplinary approach in the breast cancer intervention. Good doctor-patient communication is vital to satisfactory outcome, particularly where choices are available in intervention.

Various studies have shown equality of the result for conservative breast surgery combined with radiotherapy for smaller tumors as compared to mastectomy. This is also due to patients' preference and an ever-increasing public awareness.

Dealing with breast cancer intervention techniques is complex. For this reason, there is need for a detailed and current knowledge about treatment modalities as well as likely future development. This will bring about the achievement of more individual treatment tailored to a patient. Richards, Baum and Dowsett (1994)

2.8 Side - Effect of Breast Cancer Intervention Techniques

This section deals with the side effect of some treatment modalities on the breast cancer patients.

a. Effect of Radiation on the heart of women with breast cancer

One study led by Harris (2006) which looked at 961 women with early stage breast cancer who received radiation treatment at the University of Pennsylvania between 1977 and 1994 revealed that 477 of these women had cancer in their right breast and received radiation to their right breast. 484 patients had it in their left breast and received radiation to the left breast. These women had follow-up for an average of 12 years. It was discovered, however, that women who received radiation to the left breast had a 25% risk of coronary artery disease. This was compared with a 10% risk in women who received radiation to the right breast. Also 15% of women who received treatment to their left breast experienced heart attacks compared with 5% of women who received treatment to their right breast. According to these researchers, these findings could be because radiation to the left breast also hits parts of the heart and coronary arteries. The studies reveal that the women's heart problem did not appear until 10 or more years after the women underwent radiation. Women who received radiation in the left breast, according to the same research, do not have a higher risk of death because of heart related complications for up to 20 years after treatment. Women who underwent radiation more than five times, according to

the study, had heart health related problems than women who are currently undergoing radiation treatment because improved techniques and equipments have made it possible to avoid exposing the heart to as much radiation. Complications could be avoided if women undergo breast cancer treatments at centers with a capability of using the most advanced techniques.

b. The Effect of Herceptin on Breast cancer patients

Another study led by Esteva (2006), looked at 173 women living with advanced breast cancer who had been taking Herceptin for one year. Herceptin use was approved in 1998 according to the researcher. This was for women whose breast cancer had spread outside the breast. From previous studies, it was found out that heart problems developed in 11 % of women who took Herceptin in combination with radiotherapy. The researcher, however pointed out that this drug, Herceptin is not recommended for women with pre-existing heart problem. According to this study 28 % of study participants' hearts had reduced pumping ability but this usually occurred while they were taking the drug. More than half of the women had no symptoms of cardiac problems but some felt short of breath while taking Herceptin. Surprisingly, most women's cardiac problem could be reversed with medications such as beta-blockers and ACE inhibitors yet the study revealed that most of them had full recovery, a few had lasting problems and one woman died of complications of heart failure. However, according to this research, the risk of cardiac

problems was "acceptable" because the heart damage could be repaired in majority of women. According to Esteva (2006), if the side effects of Herceptin treatment can be managed, the drug is safe to use. Nevertheless, women with advanced breast cancer should undergo an assessment of their cardiac health before using this drug and during its' use. The study warned, in addition that the heart problems associated with Herceptin's use might represent a major concern for patients with early stage breast cancer.

Fatigue: A major side effect of all conventional treatment therapies

Cimprich (2008) classified fatigue as the most frequently reported source of distress associated with breast cancer. This is regardless of treatment modalities. According to him, about 58 – 95 % of women treated for breast cancer during and after adjuvant chemotherapy experience fatigue with few observing differences in the clinical pattern of fatigue among standard chemotherapeutic regimens. Fatigue is a distressing symptom during radiation therapy following breast-conserving surgery and increases in severity over the course of treatment. Fatigue manifests itself in increased use of multiple treatment modalities, including high dose chemotherapeutic regimes and bio-therapeutic agents. It grows into a chronic un-explained post-treatment problem in long-term survivors of breast cancer. This persists even years after completion of the treatment. Winninham, Nail, Burkeet, et al (1994), Berger (1998) noted that this fatigue

should not be confused with the normal adaptive sensation of tiredness one experiences after a hard days job but characterized by decrease ability to do mental and physical work that persists and worsens in a manner that is disproportionate to any work done. It brings about decreased attention, impaired perception and thinking and reduced ability to function well or manage everyday tasks and difficulty in maintaining personal and social relationships. This could lead to withdrawal from potentially curative treatments. Reasons for fatigue, according to Berger (1996) could be anemia, dehydration, chronic pain, depression and sleep problems which emanates from breast cancer or its intervention.

Mock, Hassey and Meares (1997) gave some supportive intervention strategies for fatigue. They include:

a. determination to manage any radical causes e.g. anemia and dehydration.
b. differentiate between fatigue and depression.
c. Education of patients and family that fatigue is frequently an expected side effect of breast cancer intervention.
d. Encourage self-care strategies. E.g. muscle tightening and exercise program, walking sitting, watching objects.
e. Teach energy conserving techniques. E.g. pacing activities, focusing on priorities, accepting help and delegating task and
f. Monitor level of fatigue and effectiveness of selected strategies.

2.9 Comparative Study of Intervention Techniques for Breast Cancer

Despite advances in supportive care most women experience debilitating side effects during the course of treatment with conventional medicines. As a result, most people resort to the use of complementary intervention techniques. Rugo (2000) believes that alternative and complementary therapies have become highly popular both for management of symptom and as cancer therapy. In San Francisco, Bay area, it was found out that 72% of women used at least one type of alternative modality and about half of them use two of non-conventional therapies after breast cancer diagnosis. Complementary alternative medicine is been increasingly recognized for supportive intervention and this has led to complimentary modalities such as acupuncture, massage, music therapy and Chinese medicine. Some of these may, however, interfere with conventional modalities. Though mainstream care abounds, alternative products are been promoted. According to the 19th annual conference held in Miami, about 75% of cancer patients try something over the counter or some kind of remedy and some combine these remedy with mainstream conventional methods.

Casilleth (1999) wrote that about 8 – 10% of newly diagnosed patients through tissue biopsy or other methods go to alternative practitioners despite the fact the medical oncologist shield

information on local uses of herbs from patients. Burstein (2000) wrote that most oncologist do not discuss alternative therapies with their patients, this necessitated these researcher asking patients why they prefer alternative therapies and got insight into the expectations of the patients. Paltiel (2001) pointed out, however, that there is need to approach the matter with caution because of cultural, social and ethnic diversity of the patients. Richardson and others (2000) found out in a research that 61.8% used complementary alternative medicine while 88.0% combined CAM with conventional therapy. For CAM users, apart from spiritual/psychotherapy use, he recorded 60.7% while a combination of both gave him 75.2%. In the Miami pattern of care study, Oncologists were asked to tell the common use of alternative medicine and the table below gave a comprehensive picture of their contributions:

Table 2: Use of alternative medicine

Activity	**%**
Exercises	53
Vitamin\Mineral supplement	46
Diets	43
Soy	25
Support groups	25
Herbs	20

Rugo's (2004) Miami Pattern of Care Study

Fifty percent of patients assess information about their treatment options on the internet and only 25% disclose this information to the oncologists. The final report given by Rugo (2004) indicated that the side effects linked to various treatment modalities contributed to patients turning to herbal combinations. The fear is that existing effective therapies may go out of use and abandoned and there could be complication in drug interaction. Rugo did another study on patients having early stage breast cancer i.e. stages I – III undergoing adjuvant chemotherapy and another commonly prescribed drug. He discovered that there was reduction of both severity and duration of nausea and vomiting from chemotherapy when conventional and alternative methods were used in addition, outcome measures included evaluation of changes in immune function that are attributed to the effect of chemotherapy.

Kreuter (2004) found out that mammography utilization, fruits and vegetable consumption were significantly greater among African Americans who received health magazines that were tailored to cultural and behavioral beliefs, compared to those who did not receive these magazines and women in the control group. A view from Nigeria (Appleseed project 2000) discovered the use by indigenous population, of herbs and medicinal fauna/flora species. These communities according to the project utilize their wild life resources for the present and future generations. This can lead to serious threats of various environmental practices.

In another research conducted by Chris, Teo and Chn'g (2007), patients came to these researchers for help in alternative medicine. The women under discussion had already undergone medical treatment such as surgery 61.7%, chemotherapy 34.2%, radiotherapy 33.6% and hormonal therapy 25.8%. Despite this, 20.7% of patients suffered metastasis or recurrence. They were advised to change their diets, lifestyle, start exercising and employ religious beliefs to find peace within. It was documented that 28.6% of those who adopted this lifestyle benefited from their therapy in various ways as illustrated in their case study. However, they wrote that herbs are not magic bullets for breast cancer, yet herbal therapy seems an integral and beneficial component for the overall healing of breast cancer.

2.10 Psycho-social Tendencies of Women with Breast Cancer and Intervention Therapies

Traditionally, African women are closely knitted as a family with the extended family ties. With the loss of their well-known traditional closeness, isolation sets in. According to Okediji (1989), health care provision starts from the individual person who provides personal hygiene, to the family, then family to family and the village to village. At all these levels information on health care is sought from community welfare officers and health centers, it is a communal effort which sustained the communal health of all. However, with the disintegration of the situation the individual is isolated. Women are

left with fewer opportunities to talk with others about their lives, and thereby they suffer physical and psychological ailments in silence. They blame them selves for the situations they are in believing that it is peculiar to them. This conspiracy of silence, according to Friere (1976) and Byllye (2002) became compounded by racism, sexism and classics. Byllye (2002) further argued that women feel helpless and hopeless thereby creating an atmosphere of psychological distress that prevent them from taking care of them selves and their families. It is rare to see black women gather to speak about their pains emotional and physical conditions. Avery (2004) advocates for women especially of black descents to speak out as this captures hopeless situation and empowers them to forge ahead and develop health perspective that is uniquely black and female. To her and others, health information helps Africa American women to claim their personal power, which translates into women who can live their lives in more authentic ways.

Niebooer (2005) wrote that psychological distress is frequently observed, but rather under-estimated in cancer patients. These patients face severe stresses caused by anxiety and depression. Previous reports, he commented, disclosed that when such patients undergo psychiatric diagnosis, they normally exhibit adjustment disorder, which could be caused by medical staff or even the family who take it for granted that it is not worthwhile taking any moves to check the condition. This case according to him, is also due to difficulty in assessing their distress because of the deception of

physical symptoms. This psychological distress can however, disturb their quality of life and affect their choice of treatment for cancer.

Awadalla (2007) after a research he undertook concluded that breast cancer patients in stable conditions and with psychological support can hope to enjoy good quality of life with treatment. He further argued that quality of life of patients and family care-givers have great impact on the cancer patients. From recent findings, Awadalla pointed out that clinically severe anxiety depression and fatigue prevalent in at least $1/5^{th}$ of breast cancer patient do predict poor quality of life. Coupled with this, the Africa woman, despite her health condition has to care for her family. This burden is associated with signs such as anxiety and depression. In association with this is the problem of sexual dysfunction common with treatment, body image, fear or anxiety over child bearing potentials and maintaining a house hold career. This means that in the two (2) to three (3) years following diagnosis and treatment, woman with breast cancer have significantly lower quality of life scores. Another finding revealed from longitudinal studies showed that majority of long-term survivors above 5 years, have quality of life domain scores that are either similar to or higher than the general population studied.

Ehrenreich, and Barrr (2005) identified some gender norms and rituals he believed causes suffering to woman. The African understanding of the body is superstitious, uncivilized and based on

false socially constituted beliefs and fears. Having part of their bodies cut off is not always acceptable. This leads to anxiety, feelings of inadequacy, in completeness and depression. It is seen as humiliating public ritual mutilation. The woman's femininеness is assumed to have been tampered with and the sexuality decreased as a result of mutilation of the breast. This feeling generates into sadness, which culminate in serious depression. Lot of our women often suffer in silence rather than let their doctors know they are having a hard time coping. Family members are, most times kept in the dark because breast cancer patients may not want them to believe they are not strong enough to battle the disease.

Thoman, a physician-philosopher, commented that waiting for the first treatment brings about fears of the unknown, which goes along with facing any new unfamiliar and potentially frightening experience. The horror stories of how difficult cancer treatment were with earlier days add to the fears because surgery used to be more radically painful and difficult to recover from. Most of these fears according to Thoman are based on misinformation and misperceptions.

Researchers have tried to link stressful life event with the development of breast cancer in older women. However, studies that showed this interest looked only at the link between stress and the development of breast cancer and they considered only one or two

factors such as social support and a woman's ability to cope i.e. the positive feeling of support, warmth and love received from another person. Studies have tremendously shown that these psychological feelings can be overcome by breast cancer patients, but the collective contributions of the patients, oncologists or care givers, relations and the society are all needed to stem the evils exposed to these patients by psychological factors. Awadallah et al (2007) Antoni (2001), (Wimberley 2005), (Antoni 2006), at different times conducted researches on cognitive behavioral stress intervention therapy with grouped or a single day seminar which focused on the longer intervention seen in relation to the woman's quality of life in several distinct domain for over a year. Considerations were given to other variables such as vulnerability and resilience factors as optimism i.e. adult attachment pattern and mediating factors such as coping responses, partner's reactions to the woman's surgery, which is an influence on her psychological well-being apart from the intervention. The impact of immune functioning during the subsequent year was also considered. Findings revealed that the intervention applied decrease distress and intrusive thought and that it enhances positive responses of several types. While using a new measure to probe for mediational effect, it was discovered that there was evidence that these beneficial effect of the intervention depended on a particular aspect of the intervention impact. This gave women confidence that they can use techniques to relax whenever they wish to.

Another project looked at quality of life among adult long-term survivors of cancer (about 5 years and longer) after treatment. With several facets, a project was developed on a new measure of quality of life designed specifically for long-term survivors. This also involved follow up contacts with persons who participated in earlier studies to predict their quality of life at long-term follow-up basis with variables assessed earlier. This study discovered that there are large effects of personality on well-being across that period (Carve, 2005). This outcome was not surprising to psychologists; it is nevertheless, a sharp contrast to the general view of most people in oncology circles, who expect medical variables to be of primary importance. Interesting enough, some cancer patients reported experiencing substantial benefits from having had cancer because it helped them to have better psychological well-being several years later (Carver 2005). Stress management intervention according to Antoni, (2005) reduces cancer-specified thought intrusion and anxiety, which are symptoms among woman undergoing treatment for breast cancer. Wimberly, (2005) carried out two studies in which they tested the hypothesis that coping through emotional approach that involved actively processing and expressing emotions surrounding cancer is influential in enhancing psychological adjustment and health status for breast cancer patients. The longitudinal, naturalistic study included 92 stage I or II breast cancer patients who completed instrument in 20 weeks following primary treatment. Three months

later, it was discovered that participant who, at study entry coped through expressing emotions surrounding cancer had fewer medical appointment for cancer related morbidities during the subsequent three months. They reported better physical health and more strength with lower distress than those lower in emotional expression considering age and initial level of psychological adjustment controlled statistically. This study II made use of independent samples of 53-breast cancer patients recruited within 20 weeks following primary treatment

2.11 Causes of Prevalence of Breast Cancer

Prevalence of a disease is an indicator of the national and current health stock of a particular people. It shows more of the result of the rate of disease incidence progression and survival overtime. As time goes on, the prevalence of a particular disease can change as a result of increase or decrease in risk factors for various disease categories. Nevertheless, prevalence of breast cancer could be due to many reasons these vary from increased ability to treat diseases in order to delay their progression to inability to diagnose and treat a disease which leads to disability and death. In essence, the survival rate will determine change in disease prevalence. (Crimmins, Hayward and Saito (1994) According to Finlieb (1995), Brown et al (1996), Hann et al (1996) Liebson (1997), Shahar et al (1997), change in both the prevalence of disease and the processes by which the prevalence changes have come generally can be attributed to

increases in lengthening survival after disease diagnosis with varying pattern of change in incidences.

In line with this school of thought, it was found out that the highest increases in disease prevalence have been in heart and cancer related diseases. Somehow, there has been considerable research on trends of health which show that changes in the prevalence of disease e.g. breast cancer is an important indicator of the combined effects of past level of and changes in mortality and disease incidences. In addition, trends in disease presence do not necessarily represent trends in disease of a specified severity. With the constant prevalence of disease overtime, the severity of the disease could change. It is also possible that in more recent years, people are learning of the presence of less severe disease at an earlier stage because of the growing ability to diagnose non-invasively.

According to the study carried out by Eileen, Crimmins and Saito (2000), Olopade (2004) Congdon et al (2004) age is a causal factor for prevalence of diseases. This conclusion was reached when they considered the prevalence of visual impairment among adults in the United States. Gender i. e. being female or male could trigger the prevalence of a disease due to the component of the body. This assertion was documented by Eileen, Crimmins and Saito (2000) Olopade (2004), Ikpah (2002).

Another factor responsible for prevalence of diseases according to Noor (2001) Ikpah (2002), Coe (2003), Ferley (2005), Abdul (2007) Ogundipe and Obinna (2008) is diet and environment that arose as a result westernized lifestyle.

Ogundipe and Obinna (2008) opined that lack of awareness, access to health care facilities, no plan for such diseases in the National Health Insurance Scheme (NHIS), lack of empowerment of women, bad economy and other social factors are responsible for prevalence of a particular disease. Inadequate clinical services for life threatening diseases and poor distribution result in prevalence. Durosinmi (2004), Olopade (2004), Adebamowo (2006), Lambo (2007), Ikpah (2008) Ogundipe and Obinna (2008). The issue of limited access and scope of services that do not allow multidisciplinary care is the hallmark of prevalence. This is Ihekweba (1993), Ikpah et al (2002) viewpoint. Obesity, particularly in westernized African American communities has been found to account for prevalence of diseases particularly in African setting. Another possible factor put forward for prevalence of diseases are genetic mutation. Olumide et al (1987) (Adebamowo and Ajayi 2003) In essence, prevalence of a particular disease cannot be pinned down to a particular cause. It is therefore the interplay of many causes.

2.12 Concept of Health Education

Health education is a tool for national or state health development. This concept of health education was engineered to enlighten the public on health matters, in the sense that individuals would be able to take care of their health conditions and that of others. Health education as documented by Greener and Kreuter (1991), Wass (1995) also quoted in Ememe (2008), is any combination of learning experience designed to bring about actions an individual puts up to better their health which is imperative to their survival. Whether it occurs in a community, school, clinic setting or place of work, it is an interactive process in which target populations are active participants rather than passive recipients. People must be informed partners in determining their health and quality of life (International Union for Health Education 2000) Kolbe (1985) saw health knowledge as a process in which competencies needed to make personal decisions about health behaviour and skills to engage in behaviours conducive to health is improved to enhance the health of family members as well as the community. Its' knowledge does not only provide the essential scientific health information but also foster wholesome attitudes and practices for healthy living.

Health education maximizes individuals' potential for reducing the rates of reproductive health problems such as STD's, AIDS and even breast cancer (Kolbe 1985) This concept "Health education" was described as that continuum of learning experiences which enable

people as individuals and as members of social structures to make informed decisions, modify behaviours and change social conditions in ways which are health enhancing. The ability to learn, obtain, interpret and apply health information and services in ways that protect and promote personal, family and community health is health education. In order words, a health education programme should be able according to McElmurry, Wansley, Gugenhuim et al (1997) to

- Apply health promotion and disease prevention concepts and principles to all areas of life.
- Assess, achieve and maintain health enhancing behaviour throughout life.
- Identify and manage controllable health risks,
- Respect and promote the health of others and
- Select access and use health services, products and information wisely.

Included in this list of possibilities for health education is the ability to handle concepts, possess social skills and effective interpersonal communication components that enhance health, demonstrate advocacy skills for enhanced personal, family and community health (Health Education Content Standards and Benchmarks of Michigan Department of Education 1988).

In essence health education aims at overall enlightenment on people's health conditions and risk factors. It also takes health

enhancing actions both for individuals and their communities. Moronkola (1999), cited by Ademuwagun et al (2002) quoted in Ememe (2008) seemed to consider a lot of factors in defining the aims of health education as he postulated the following:

i. To instill in people, the need for healthy life, for quality living that will ensure high productivity.
ii. To teach people how to take care of their personal and community health.
iii. To change people's negative health practices to positive ones.
iv. To encourage people to use available health services.
v. To make people see the need for preventing disease rather than spending more time and money for treatment.
vi. To encourage people to continue with their local ways of life that promotes health.

The International Union for Health Education (2000) put the planning process in any health education programme as pertinent because it enables health education to adapt to the multiple health and social changes in each community. This process must be based on the consideration of relevant information that should describe multiple factors that are likely to influence the behavioural and health related outcomes of interest and must account for the needs and interests of the target population. In addition, such data demands effective use in knowing what the unforeseen factors might be including unique circumstances and environment surrounding specific individuals or

groups. There is the need also to have the skill to determine the relative importance of these factors. According to this Union, the programme planners should ensure that the needs and interests of the target population remain central. This necessitates that members of the target population must be involved in the planning process because participation assures that there is respect for people and a basis for pursuing mutual efforts and partnerships. People feel they are doing something "with" rather than "to" others. Health education will therefore, serve as a sound foundation for new knowledge.

Pallock and Carlyon (1996) quoted by Idehen (1999) seemed to have streamlined the planning process as they itemized areas to consider when embarking on health education programme planning. These are:

- Assessing individual and community needs for health education
- Planning effective health programmes to meet these needs
- Implementation of these programmes
- Evaluating step by step effectiveness of these programmes
- Coordinating the provision for the programme and bringing resource persons who are adequately competent to handle areas designated to them.

Other processes include the ability to handle concepts, possess social skills and effective interpersonal communication components that enhance health, demonstrate advocacy skills for enhanced personal,

family and community health (Health Education Content Standards and Benchmarks of Michigan Department of Education 1988).

However, Furney (1989) wrote that health education curriculum, if well designed, can play a significant role in implementation of health education objectives designed for any level of people. To Adegbite (1992) health education can only be effective and made to have positive impact when it is backed up by physical aids that would capture the attention of the learner. With regard to this last assumption, one could infer that adult education packaged in health education designed for women, breast cancer patients must be backed up by assistance and physical aids deemed fit to capture the attention and interest of women.

2.13 Need for Adult Education in Breast Health

Information enables, enlightens and empowers particularly disadvantaged groups of which women are in the majority. Women with little or no literate ability are much more disadvantaged in information reception and according to statistics more women fall to this category in Nigeria. (NDHS, 2003) Series of studies and researches have been undertaken to show the importance of awareness and management education and the need to take it seriously. Between 1973 and 1974, studies were conducted on two populations in rural communities of similar socio-economic levels in Nigeria. One of them had access to health facilities and the other

didn’t have. The study, found out that the provision of a hospital reduced mortality in isolated centers where children had no access to medical services, there was a substantial difference in mortality according to whether the mother had been to school or not. This is according to the WHO (1986).

Onajole, (2006) carried out a research on the awareness of self-breast examination among female non-medical under graduates in two universities in Lagos, Nigeria. The mean ages for the respondents were 22.5 and 20.5 years respectively. Despite the fact that majority agreed to have heard of breast cancer, only 23% in Lagos state University (LASU) and 18% in University of Lagos (UNILAG) agreed that breast cancer was a major health problem affecting Females in Nigeria and 53.3% and 70% in LASU and UNILAG respectively had never done breast self examination. The study showed that our universities are in dire need of awareness on the practice of BSE and CBE. Oluwatosin and Oladapo (2006) addressed the level of awareness of breast cancer and early detection measures in Akinyele local government area of Ibadan, in Oyo State. It was discovered that, there was lack of information and knowledge of vital issues regarding breast cancer and more importantly, that awareness was low. The youngest age recorded was 16 years and this was discovered in Lagos State from statistics obtained in centers registration.

Adebamowo and Ajayi (2000) earlier uncovered the fact that post-menopausal women accounted for 20% of cases while the rest cases fell to younger women. Awareness was also low according to them.

The importance of creating awareness cannot therefore be underplayed in Nigeria, especially in Lagos state. Women need to know their body components and how to critically organize themselves in ways that would not hamper their breast health. One woman in every nine will get breast cancer at some time in her life-time. This factor makes it mandatory that women be aware of the components of their bodies, understand breast cancer and how it can be detected early.

Recognizing the importance of women, in 1995, at one of the largest conferences ever held in Beijing, a platform was set forth for the political, economic, health and social empowerment of women, particularly as it concerned their health (Saverbrey 2006). Despite the resolutions at the meeting on women's health, premature deaths are still recorded due to all forms of diseases particularly breast cancer so Euodian and Bakkita (1998) and Edwards (2006), proposed education or creation of awareness as the answer. They believe education will enable women ask relevant questions, know their options and make decisions about their health status.

When productive programmess are deliberately planned for women, they are sure to eliminate the menace of breast cancer; however, it seems in most countries of the underdeveloped world, legislations

and policies are not incorporated and productive programs are not implemented. {Commonwealth Secretariat (2000), Adebamowo and Ajayi, (2000), Durosimi (2004) Olopade (2004), Oluwatosin and Oladepo (2006) Okobia et al (2006), Orija (2007)}

Furthermore, for proper implementation of policies on women's health, the Commonwealth "Plan of Action" identified 15 critical areas of action that brought about pronouncements as to expectation of the global world on this issue. Policies were also documented and health providers were challenged to deliver services relating to women and also identify, analyze and develop policies to end gender imbalances and ensure that legislations were followed in health provision for women.

During the follow up to provide a mandate for achieving gender equality especially in health, it was documented among other things that "the explicit recognition and re-affirmation of the rights of all women to control all aspects of their health is basic to empowerment" So five objectives were set out as follows:

1. To provide women easy access throughout women's lives to appropriate affordable and quality health care, information and related services,
2. To strengthen the programs which promote women's health,
3. To undertake gender sensitive initiatives that address sexually transmitted diseases and sexually transmitted reproductive health issues, including breast cancer and

4. To promote research and disseminate information on women's health and increase resources and monitor follow-up, in all aspects of women's health.

From the above, it could be seen that attending to women's health is a global issue and concern. Blair (2006), the former United Kingdom Prime Minister pronounced that the individual woman should be empowered by necessary information so that she can make the choices and decisions about her health. Good information should be provided through industries, media, civil societies and in fact virtually all who can help persuade more women to make more healthy choices. Taking a cue from Blair, one can safely say that the need to raise awareness through enlightenment campaigns is very urgent. This enlightenment means more than the formal basic institutionalized training but giving a program designed to meet needs, liberate women from superstitious beliefs, ignorance or old wives tales and fables. It is important to break the deadly shackle of illiteracy and ignorance that stems from it. This was Osisanya's (1999) view.

Enlightenment is the key to women's progress. Through this, women can truly escape lives of poverty, raise healthy and better children and live better healthy lifestyles. Awareness creation should not be made optional but a necessity because it has the potentiality to elongate life span (NCWED 1998) Acquiring knowledge is the first

step towards effecting a change. Whatever the change, Vasedeva (2006) opined that information is a catalyst for it. Information acts as fuel that ignites awareness. It has the potentials to modify attitudes and behavior. It empowers especially disadvantaged groups to which women belong. Jones (1974) argued that knowledge is socially grounded. This means that it has its' root in societal norms. When societal norms, cultures, and belief systems of a people are considered in communicating health programs, it is most likely that such programs will sail through. For this reason, emphasis should be placed on individuals having full participation in knowledge process in the society. If knowledge is firmly set in the context of social interaction, then life should become a process of continuing negotiation through which open access to knowledge resources in a society can be gained.

Knowledge is gained through different channels i.e. the print or electronic media, and other communication channels depending on the audience or recipients of the information. However, the mass media i.e. information technology has made massive investments in the areas of information dissemination. Vaseduva (2006) outlined some questions that he believed could help determine the level of information received by women. They include:

i. Do women enjoy equal professional opportunity in the information sector?

ii. Do non-literate women have ready access to the information they need?

iii. Are they well served by the Mass-Media and are they able to take full advantage of the information received?

Looking critically at the questions, one wonders whether the information on breast cancer has been adequate. What factors could have been responsible for the inadequacies? Psychologically, women's emotions, feelings, fears and anxiety influences the reception of the information received. Majority of women adopt a negative stance to such information on diseases that are life-threatening such as breast cancer prevalence. Discussing it may be seen as evil, so it is best left alone because discussing it might make them happen. Socially, women by nature are more concerned with meeting present domestic and economic needs such as where to live, what to eat, drink and what to put on coupled with the care of their immediate and extended house-holds so planning programs that could reduce the prevalence of any disease must consider best methods suited for them. Are there societal norms affecting the reception of enlightenment programs? What are the effect of beliefs, customs, traditions and taboos of the people in relation to the reception and inculcation of the information received?

Friere (1976) believed in functional education designed to liberate the recipients. To allow change of any sort, the level of

consciousness of the women should be addressed. This is because a conscious person is already liberated. Women need to know the reality surrounding them and interpret this critically. Historical conditions related to culture such as beliefs, social structures, myths and other traditional undertones re in-forces negative feelings like inferiority complex, fear and anxiety. These lead to being subjected to living by myth and not reality. These women, according to Friere, could be caught in a "culture of silence". There is need to create awareness and enlightenment through programs that adopt methods acceptable and familiar to them. Friere (1976), when considering the lethargy and alienation which characterized the life style of Brazilians during the 60's, observed that the education their situation demanded was one that would enable them discuss their problems courageously. According to Osuji (2007), this will warn them of the dangers of the time and offer them the confidence and strength to confront those dangers instead of subjugating themselves to the decisions of others. It will also enable them to become disposed to re-evaluation, to analysis of 'findings', to adopting scientific methods and processes and to positioning themselves in dialectical relationship with their social realities. Women should be helped to assume a critical attitude towards the world and its beliefs thereby transforming it. To achieve this, effort should be geared towards understanding the constraints in health related behaviors and this must take account of social and cultural factors of individuals. This is Mandelbattet, (1992) view.

2.14 Implication of Breast Cancer Education for Women

There are physical, emotional, psychological and social health problems among women today which education should address. The saddening thing is that while some of these conditions are easily noticed and treated, others are very difficult to notice because they don't have initial signs and symptoms culminating in late presentation at hospitals, which bring complication and ultimately end in death. Such is the case of breast cancer. Breast cancer is a major health problem and the main cause of death among women (Onajole 2006, Olopade 2004, and W.H.O/UN 2008). It is malignancy of the breast common in women and the incidence is increasing steadily both in developing and developed countries. Over ninety percent of breast cancer is detected initially on the basis of a mass, a painless one-sided lump or changes in breast appearance, localized pain or discharge from the nipple observed by the women herself or her physician. Its incidence is increasing despite evidence that early diagnosis and treatment may reduce the number of death and increase the likelihood of conservative less mutilating treatment. More than 11 million people worldwide are diagnosed with breast cancer every year. In the year 2000, breast cancer resulted in an estimated 189,000 deaths in developing countries and 184,000 deaths in developed countries accounting for 16 % and 12 % respectively of all cancer deaths.

It is believed that older women are far more likely than younger ones to get the disease as a result, younger women are neglected and that make the occurrence more common than cervical cancer in a number of developed countries. These trends, along with highly publicized advances in the detection and treatment of the disease, are drawing attention to it even in regions where its incidences remain low. It is therefore important that policy makers need to weigh the costs and benefits of fighting breast cancer against other competing health needs. In addition, diagnostic treatment and palliative services, which require substantial technological and financial resources, must be put in place. There is need to create awareness about breast cancer to enable women get the health care they need. In most cases, they cannot afford it so preventive measures are avenues through which women can stem the high risk they are exposed to, by living healthy lifestyles and having constant breast self-examination. Awareness creation is germaine to preventive medicine. If women are not aware of the symptoms of the disease and how to get help, it might be too late to help such women.

Breast cancer campaigns can help save lives when it is intended to create increased awareness through educational materials, activities and programs. Awareness creation can help to achieve maximum exposures concerning this destructive and often fatal disease particularly to women who are under-privileged academically, socially and otherwise when the awareness programs are taken to the

grassroots. It is showing compassionate concern for the disastrous effects of this illness, which take lives of so many of our wonderful women due to no fault, possibly of theirs and due mainly to ignorance, lack of knowledge and misconceptions.

Stories of women who survived breast cancer serve as a form of inspiration to others who may or may not yet be diagnosed with the condition as it arms them with the knowledge with which they could defend themselves and their loved ones against this terrible illness. A point in case was observed in Ajeromi/Ifelodun local government Area in the campaign organized by Lagos State government when a survivor of 10 years was allowed to share her experience and encourage other women who might be diagnosed with the disease. The implication is that the testimony shared is likely to instill in other women some courage to fight on. According to Castle (2005) the United States congress-man in his speech, "C" which stands for cancer is the scariest word in the English language dictionary and it touches all of us, whether it has been a personal struggle or a struggle faced by family and friends and it seems inescapable.

Though the United States has designated the year 2015 as the year of complete eradication of cancer, according to him, it is a long time off, but a lofty goal, yet it is critical that we focus on the necessary research and develop means to increase the rate of survivorship. In the United States of America, there are more than two million breast cancer survivors and more of this survivors and professionals

volunteer their efforts to fight this deadly disease through creation of awareness. Communities and organizations are all promoting awareness about breast cancer. This is increasing the ever-expanding rate of breast cancer survivors in the U.S. yet they still have the problem looming them in the face. What then do we say of Nigeria and Lagos state in particular? People should be so concerned and empathic about this evil constituted by the disease to the extent that they passionately carry out the awareness campaigns to the hill tops, villages, market squares and virtually every where there are women. There is reason to start from somewhere through helping our women to practice breast self-examination, thereby helping in early detection processes. As the fight against breast cancer progresses, breast self-examination becomes more important than ever. Apart from creating awareness, there is the need to become supportive of those who have been diagnosed with the disease and proactive in our approach through aggressive campaigns and especially during the breast cancer awareness month, which is normally October of every year.

Publicity removes biases, shame, fear and all forms of psychological and societal attachments to ailments. It makes communication open and people are able to ask questions, receive answers and act accordingly. Women are encouraged to take charge of their breast health by practicing regular Breast Self Examination and making sure to schedule an annual mammography. This will help them when they are eventually diagnosed with breast cancer, because they are

already aware and exposed, they can adhere to treatment, knowing facts about recurrence and choosing treatment options made available to them. They are able to put to rest the myths surrounding breast cancer and to have an open forum where they can come forward with their problems.

African, by extension Nigerian women, are the heart and soul of the family so by ensuring their health, we are giving them a mind set of health education that moves on to their children as well as their husbands and partners (Breast Health South Africa 2006) Okobia, Bunker, Okonofua and Osime (2006) documented that women who are less than three months into the sickness reported that it was the information they received that gave them awareness and opened up treatment options to them as well as support to cope with diagnosis. Therefore, provision of information is particularly urgent. Asking questions on ones health and adequate patients and health provider relationship are important. Information positively influences patient outcomes including the feelings of anxiety and fears. In addition, symptom management, confidence and ability to communicate with family members and disallow traditional beliefs, values, norms and religion from infringing on their desire to seek help and manage their conditions can only be achieved through education. Education will help women to appreciate the magnitude of the problem and help them seek solution as fast as possible. The World Health Organization (2006) while giving their estimate wrote that by 2020,

death rates for female 76/100,000 will be recorded because 70% of patients report late at hospitals due to ignorance, cultural beliefs and inability to afford cost of treatment. Education is therefore needed to at least awaken their consciousness and debunk effects of cultural beliefs to aid early detection so that the exorbitant cost needed for treatment will be avoided. Education will also help women to understand life- style issues that are major risk factors for breast cancer. Change in lifestyle can be effected when knowledge is imparted. This knowledge can only be imparted through the instrumentality of adult education. In essence adult education is very paramount to women on breast cancer awareness and intervention.

2.15 Efforts towards Widening the Scope of Breast Cancer Education

Lot of adult health educators working with government and non-government agencies including individuals have been making concerted efforts towards educating people on breast cancer. Awareness programs are on the increase and many people, including the researcher are agitating for the inclusion of breast health topics in school curriculum. Recently, to increase the scope of cancer care in Nigeria, the Federal Government created a Consultative Committee on National Cancer Control to formulate policy guidelines relating to the presentation and management of cancer in Nigeria. Also societies such as the Nigerian Cancer Society (NCS), Society of Oncology and Cancer Research of Nigeria (SOCRN), the Society for

the Study of Pain (SSP), the Palliative Care Initiative (PCI) the Patients Advocacy of Groups (PAG) became active in promoting cancer control and prevention. Research is also increasing. Nigeria as a Nation is a participatory country in the International Haplotype mapping project i. e. partnership of Scientists and Funding Agencies from Canada, China, Japan, The U.K. and the USA, designed to develop a public resource that will help researchers find genes associated with human diseases.

In addition, cooperative groups such as the International Breast Cancer Study Group and the International Breast Cancer Research Foundations have established collaborating centers in Nigeria. This is to enable high patients care. The National Health Research Ethics Committee is committed to ensuring conduct of researches according to the highest ethical and scientific standards. The scope of the education should compass the implementation of activities that addresses and support needs of young women, rural, remote and urban women in all the areas designated. Consultation with other partners in progress helps to establish strategies and action plans. Information about risk factors and methods to achieve early detection culminating in saving lives of numerous women should be a focal point for breast cancer education programs. Adebamowo (2007) solicited for greater awareness of improved access to health care through new programs such as the National Health Insurance Scheme, empowerment of women, steadily improving economic and

social factors that will increase rates of cancer diagnosis. This assertion was made according to him, because comprehensive health programs are likely to be beneficial than disease specific programs in tackling this problem.

Presently in Nigeria, Adebamowo (2007) opined that the scope of services is limited. Surgery is most often performed by surgeons whose primary clinical practice is not Oncology. This necessitated the need to bring in a more multidisciplinary cancer care service. However, there is increasing awareness of modern palliative care and pain management, which is particularly useful but patients present themselves with advanced diseases which make it impossible for physicians who have limited access to treatments that offer the prospect of prolonged survival to undertake the desired steps. Investment in health education on lifestyle and associated risk factors will promote healthy living and prevent obesity, reduction of pollution and environmental contamination. This calls for internal collaboration for maximum benefits (Adebamowo 2007) For maximum benefits, the scope should also include enhancing the health of the people by educating physicians and health scientists by conducting research in the medical and applied sciences and providing the skills and attitude of lifelong learning. There should also be an increased opportunity to share concerns and identify community's specific gaps by having focus groups and integrating breast cancer and wellness approaches through organizing series of

women's wellness workshops. Maintaining and enhancing of the existing network initiative and the beginning of a process to provide for broader, integrated and sustainable approaches to chronic diseases and the maintenance of well - being cannot be over-emphasized. Provision of opportunities for training and identification opportunities, meeting focus groups and having adequate feedback is very essential in the scope of breast cancer education.

According to Benjamin et al (2005) there is need to develop evidence-based, economically feasible and culturally appropriate guidelines that can be used in nations with limited health care resources to improve breast cancer outcomes.

These researchers proposed using a "step wise systematic approach" to health care improvement. This incorporates a system of resource allotment into levels i.e. basic, limited, enhanced and maximal. Resources should be allotted to levels according to their bigness and scope. This method proposed by Benjamin et al includes early detection that improves outcome in a cost-effective fashion assuming treatment is available. This is in union with Clinical breast examination and diagnostic breast imaging which are known to facilitate cost-effective tissue sampling technique for breast cancer conservation treatment with partial mastectomy and radiation therapy.

Regrettably, though it seems, low income countries such as Nigeria have not identified cancer as a priority health care issue as a result

of concentration on battling infectious diseases which are predominant public health attention. This calls for reversal of priority that suits the urgency with which breast cancer should be treated.

Michael et al (2006) advocated that health care personnel should have adequate knowledge about breast cancer, sufficient information about treatment and adequate training on how to tackle knowledge and beliefs regarding the disease on women attending a public education center. In addition, it is important that nurses and teachers have reliable sources of information with which they teach their patients. Using a community based outreach program will help improve breast health awareness among the people.

Centers women frequent for ante-natal and post natal clinics could be points of contact for pregnant women for breast self examination and clinical breast examination. This will help early detection of the disease by health workers and providers.

2.16 Relationship of Breast Cancer Study to Adult Education

In the Nigerian context, failure to seek medical intervention on time may be attributable to a number of factors such as lack of formal education in general, lack of education on the subject matter of health, poverty, religion, culture, underestimation of personal health risks and the consequences of neglect. For breast cancer education to be successful, for a lasting impact on women, education of the recipients is paramount. With adequate education, the issues

regarding poverty, culture and inability to understand one's risk will be taken care of. Breast cancer education cannot be done in abstract. It must be through the machinery of adult education, whether designed for women particularly patients where its' effect are vividly noticed, caregivers or awareness creators. Adult education when seen in the light of continuing education, symposia, workshops, meetings and various other avenues are used to disseminate early detection of breast cancer. This is highly relevant, considering the profile of the disease.

In the first place, the realities of modern practice highlight the need for new and effective trials in cancer education. This helps to improve knowledge and comfort in patients' management following a continuing education programme on breast disease and it's early detection (Tippings Morries Brien and Davis, 1998) Furthermore, Adult education is been used to promote breast health. The World Education (WE) in collaboration with the Centers for Disease Control and Prevention (CDCP) promotes access to information and services about breast cancer and even cervical cancer to adults with limited literacy skills. Having the understanding that high proportions of adults live in poverty, are from minority population and are new immigrants made these organizations locate their activities around them. For better impact, literacy centers, network of adult education organizations were used including trusted adults with limited English literacy skills. Furthermore, Adult Basic Education (ABE) classes and

English for Speakers of Other Languages (ESOL) classes are also locations of in-depth breast health education. These literacy classes are designed specifically to address the learning needs of adults and to provide numerous opportunities for discussion, structured learning and skill building. Incorporated also was five years of teachers and learners' feedback. This was to better meet the needs of adult education and these learners.

Adult education in form of continuing education, are designed to assist Exercise Specialists working with women following breast cancer diagnosis and surgery. This education focuses on the concerns and needs of breast cancer survivors with emphasis on individual's exercises design during the recovery process. When Survivors have completed their treatment, it is important for them to stay abreast of the tested treatment programmes and research discoveries made on breast cancer because of their continued thirst for information and willingness to learn as much as they can. This stance may make a difference for their health or for some one close to them. Though the treatment may be over, the disease and its long-term effects may continue. It is therefore necessary to stay abreast of information on the diseases and very recent health practices. Apart from family and friends, there are others who can greatly benefit from their wealth of experiences such as newly diagnosed patients or survivors who have the same stage of disease and treatment plan as they had. Their experiences and advices could also be comforting.

Breast health education, which is an aspect of continuing education, allows the examination of advances in scientific and breast cancer research, evaluation of the role of new diagnostic techniques and therapeutic strategies as applied to the care and management of patients. New practices are discovered and implemented. Existing practices may be revised based on information presented at the symposium attended to better practices (Rager, 2003).

Adult education informs the breast doctor on the best modality of disseminating emerging evidence-based data. To corroborate this assertion, a study done by the National Cancer Institute (NCI) Office of Education and Special Initiatives (OESI) in 2005 discovered that oncologists most frequently favoured research findings as the basis of their clinical decision-making. Symposia are also designed for individuals with clinical and research interest in the prevention, screening, evaluation and management of breast cancer including Radiologists, Medical, Surgical and Radiation Oncologists, Pathologists, Laboratory Scientists, Nurses, Pharmacists, Physician Assistants and other health care professionals involved in clinical care and research in this area (Rager, 2003) These symposia help summarize information relevant to breast cancer and their clinical implications including the role of conventional chemotherapy and of novel combinations in conventional chemotherapy.

It also helps identify emerging techniques and the status of these techniques in the care of patients with breast cancer. In addition, symposia give a review of current risk prediction methods and prevention strategies including discussion of new insights into the biology of breast cancer. Adult education is very relevant in breast health

2.17 Role of Adult Education in Breast Health

Steinberg, Wiggins, Barnadach, Sullivan (2002) investigated the knowledge, attitudes and health care experiences of adult deaf women in a study they conducted. For this study, interviews with 45 deaf women who participated in focus groups in American sign-language were translated, transcribed and analyzed depending on women's understanding of health. This knowledge of health vocabulary in both English and American sign-language common health concerns among deaf women was examined. Results emanating from this study revealed a lack of health knowledge, understanding of the meaning or value of cancer screening, mammography and lack of common language with health services providers were demonstrated. Intensive behaviours were also described. Health providers who used qualified interviewers had better results. The conclusion of this study was that deaf adult women have unique cultural and language issues that affect healthcare experiences. It was therefore recommended that improved access to health care could be achieved with specialized

resource materials, improved prevention, and targeted intervention strategies which could be made available only through adult education.

Rager (2007) worked on gender differences exhibited in the self-directed learning experiences of breast cancer patients. In this study, a secondary analysis was conducted using data from two qualitative studies regarding the self-directed learning of breast cancer patients. Findings indicated in men and women differences regarding privacy, seeking connections, handling emotions and perspectives on the personal impact of self-directed learning and experiences.

Another study, undertaken by a group of researchers assessed the effectiveness of intensive education for physicians compared with traditional sessions on communicating with breast cancer patients. A randomized controlled trial was conducted in practices in London, Hamilton and Canada with 17 family physicians, 16 surgeons and 18 Oncologists including 102 patients. Doctors were randomized to 1 of 2 continuing education approaches, a traditional two hours version (Control group) and a six hours intensive version including exploring the patients' perspectives and reviewing video-tapes and receiving feedbacks (Intensive group). Communication behaviour of the physicians was measured objectively both before and after the intervention. Four post intervention patients' outcomes were measured by design only for surgeons and oncologists. The result

was that there were no significant differences found in the communication scores of the intervention versus the control physicians when controlling for interventions communication scores. Intervention family physicians however, had significantly higher communication sub cues than control family physicians. Also patients of the intervention surgeons and oncologists were significantly more satisfied than patients of the control surgeons and oncologist when controlling for covariates and adjusting for clustering with doctors. The conclusion of the study was that continuing medical education intervention was effective in terms of physicians and patients' outcomes.

2.18 Factors Affecting Acceptance and Adoption of Breast Health Preventive Education

Nwangwu (1996) quoted in Ememe (2008) noted that the Primary Health Care alone will not provide solution to the health problems seen in third world countries. They also noted that implementation of health programmes is not possible without some other factors being put in place such as favorable health policies, accessibility to health care services, information through media exposures and other factors upon which the success of health education programmes depend. A lot of factors affect the adoption of health prevention practices. These vary from attitudes, beliefs to societal norms that were embedded in the communities or societies over generations. For clarity sake, factors affecting the adoption of preventive practices

were grouped into two categories. The external factors that deals with policies outside the immediate control of the individual and community such as government policies on decisions and actions. This also includes the power structure, social stratification and economic forces which could also be influenced by natural resources investment or foreign aid, resulting in limited or abundant national economic resources, inept and inadequate planning and management, insufficient involvement on the part of the government and a shortage of qualified manpower. Mbere (1980), Nwangwu (1999) and Ememe (2008) Social variations in the populating according to them may also influence acceptance and adoption of these measures. Mention was made of inconsistent guidelines among health professional organizations indicating the mode of operation as possible factors. (Mbere 1986, Diane and Shecham 2006, Fact sheet (No 23)

The internal factors on the other hand are individualistic in that they have to do with the individuals' values, habits and belief system. Further more, internal factors determine whether an individual will adopt a new health practice or not because of social acceptability of the facilities to be used. These facilities should take cognizance of individuals' personal values, habits and experience and not only the provision of health practice. (Mbere, 1986) cited in Ememe (2008). In addition, Mbere (1986) outlined other factors such as poverty, high rate of illiteracy and semi-literacy noticeable in developing

countries and environmental influences such as poor health, traditions and cultural beliefs as basic hindrances to adoption of health practices.

Studies have shown why individuals would want to have positive change in health behaviors. White (1981), Barranowski (1992), Husbly (1993) Vernon (1999) and Weinstein (1999) all agree to the fact that individuals as separate entities already have knowledge, beliefs and values or attitudes as a result of social learning channels such as parental nurturing, friends associations and through selected leaders in the communities. It therefore follows that before adopting a new practice, such individuals would want to consider whether these practices are in conformity with their initial beliefs, ideas and the consequences of adopting such changes.

The BASNEF Model was developed by Husbly in 1993 to enhance our knowledge of why and how individuals change behaviors or adopt positive health practices.

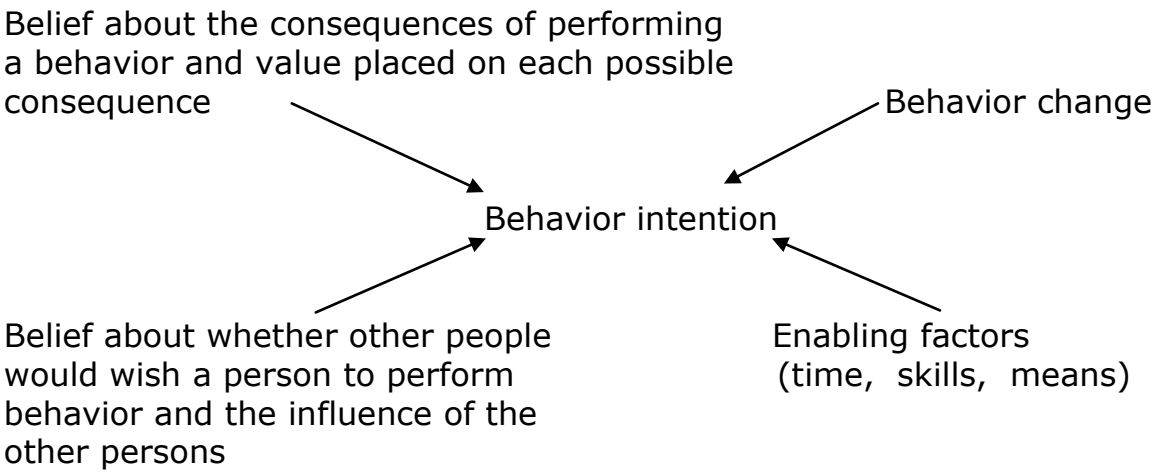


Fig 1: THE BASNEF MODEL (Husbly 1993)

This model states that individuals will accept new practices when it is perceived as having health benefits considered important to the individuals. This perception leads the individual to develop positive attitude to the change considering the effect of the significant others because of the effect of environmental factors on individuals' decisions. Ememe (2008) Mbere (1986), Diane and Shechan (2006) Fact Sheet (No23) seemed to pinpoint lack of adequate education and exposure on the part of health care practitioners who do not have adequate prevention and detection approaches to health. Manish-MPatel, Janssen, Tard, Herring, Parashar (2006) considered the problem of geographical location of hospitals where machines for screening are available as a factor which makes it impossible for people to access them. Sectional awareness programmes focused on few selected areas could also restrict adoption of innovations.

It was documented in The Fact Sheets (No 23) that the perceived clinical needs if different from perceived societal needs are likely to influence the acceptance. It is therefore expedient that perceived societal needs are considered in any educative programme. Other factors outlined in the Fact Sheet (No 23) include divergences between target group needs and private sector viability and lack of long-term funding strategies. In addition, the Fact Sheet considered traditional, cultural practices reflecting values and beliefs held by members of a community. Some of these beliefs are beneficial while others are harmful and retrogressive. These prevent women from controlling their fertility, nutrition and birth practices. Other areas

such as female genital mutilation are also affected. Since these practices are not questioned, they affect the health of women due to ignorance or unawareness of their rights.

Previous researches have also shown that religious and spiritual beliefs influence decisions about seeking treatment for breast cancer symptoms. For example, Partide (2004) found out that, religious or spiritual beliefs such as prayers of faith for healing are equally associated with greater delays in seeking treatment for breast cancer symptoms among Hispanic/Latinas. Faith in God was influential in determining the length of time between recognizing symptoms and seeking care. For breast cancer education to be effect therefore, one must take cognizance of these cultural undertones having negatively effect on women.

Intelligent individuals are known to adopt innovations quicker than others. In addition, Rogers (1995) cited in Ememe (2008) seemed to believe that innovators and early adopters are more adventurous, younger and more educated than other categories. The implication here is that these set of people are easily entreated and could adopt innovations faster than others. The change agent must tap this for transmission of information and also acknowledge this fact about late developers whom he has to continually convince or prod according to Ememe (2008) into taking action and getting through to core resistant laggards.

Rogers (1995) documented that the diffusion theory identified peculiarities of innovations that determines its' adoption. They are relative advantage, compatibility, complexity, trialability and observeability. Simplicity of an innovation and the ability to adapt it into existing practices and norms aid quick adoption. Roger (1995), Ememe (2008) Need for effective information channel, which helps to translate knowledge into observable character change, cannot be over emphasized.

Its effectiveness depends on the source of information, the message and channel and the audience who received it Tones et al (1991) cited in Ememe (2008). There could be good communication channels yet if barriers to information reception are not addressed, the information may not yield the desired effect. Social factors such as gender, educational levels of individuals, socio-economic conditions, religious beliefs and so on should have been addressed to elicit positive response. This is UNESCO (2001) view.

Communicating messages one on one attract influences from the receivers. For example, the campaigns organized by the Ministry of Health in association with Ministry of women affairs and Poverty Alleviation in February 2008 was interpersonal. At the end of the campaign, the effect on the participants was commendable. The persuasive nature of the communication which enabled the communicator modify his arguments conformity to motives and characteristics of people he interacted with helped to counter their inner struggles, objections and many unanswered questions were

answered to the extent of exhibiting observable change in character. However, the mass media is adequate for audiences that are far apart and could no be reached interpersonally (Tones et al (1991) Roger (2000).

2.19 Theories of Health Behavior Change

Osuala (2005) defined a theory as an attempt at synthesizing and integrating empirical data for maximum clarification and unification. Theories permit the prediction of the occurrence of phenomena, enables the investigator to postulate and eventually to discover hitherto unknown and unobserved phenomena. It pinpoints crucial aspects to be investigated and crucial questions to be answered.

In health education, theories help to identify areas in need of extrapolation and fills up gaps in research. A lot of theories abound in health education. These helps to synthesize and integrate data which allows evaluation of the health programmes though may have varied initial origins i. e. a theory formulated in psychology (social science) may be adapted to health programmes.

For the purpose of this study, the Information – Motivation – Behavioral skills model, Theory of Reasoned Action, Theory of Planned Behavior and Diffusion of Innovation Theory are reviewed.

The Information-Motivation-Behavioral Skills Model (IMB)

This theory conceptualizes the psychological determinants of HIV preventive behavior and provides a general framework for understanding and promoting preventions across populations and preventive behaviors of interest. The interest here is breast cancer. This theory is based on analysis and integration of theory and research in the HIV and social psychological literatures. Its focus is on the set of informational, motivational, and behavioral skills factors that are conceptually and empirically associated with health preventions but has been used extensively on HIV prevention.

The IMB model asserts that prevention information, prevention motivation and prevention behavioral skills are the fundamental determinants of prevention behavior. Fisher and Fisher (1991) (1992) Fisher, Fisher and Mosovich (1996) Helweg-Larson and Collins (1997) They posited that when individuals are adequately informed, motivated to act and possess the behavioral skills required to act effectively, they will initiate and maintain patterns of preventive behavior. This model states that when preventive information directly relevant to preventive behavior is given and easily enacted to the social beliefs of individuals, preventive behavior would be achieved. This model also recognizes cognitive processes and content categories that significantly influence preventive behavior.

Motivation to engage in preventive acts is an additional determinant to achieve preventive behavior and these influences whether even

well informed individuals will be inclined to act on what they know about prevention. Preventive motivation according to the model includes personal motivation to practice preventive behaviors for example one's attitude towards practicing specific preventive acts such as breast self examination. Social motivation to engage in preventive behaviors, include perceptions of social support for performing such acts and perception of personal vulnerability to such infection Rosenstock (1996).

The IMB model specifies that prevention information and motivation work primarily through prevention behavioral skills to influence preventive behavior. In other words, effects of prevention information and motivation are expressed mainly as a result of the development and deployment of prevention behavioral skills that are directly applied to the initiation and maintenance of preventive behavior.

In addition, the IMB model specifies that prevention information and motivation may have effects on preventive behavior in cases in which complicated or novel behavioral skills are not necessary to effect prevention. For example, breast cancer prevention information may have a direct effect on preventive behavior when a woman learns of the benefits of early detection and agrees with her health care provider to undergo BSE, CBE and mammogram. Motivation may have a direct effect on behavior as when a motivated woman maintains a healthy lifestyle as opposed to living a carefree life.

Finally, from their own perspective, information and motivation are regarded as generally independent construct in that adequately informed individuals are not necessarily well motivated to practice prevention and also motivated individuals are not always well informed about prevention Fisher and Fisher (1992).

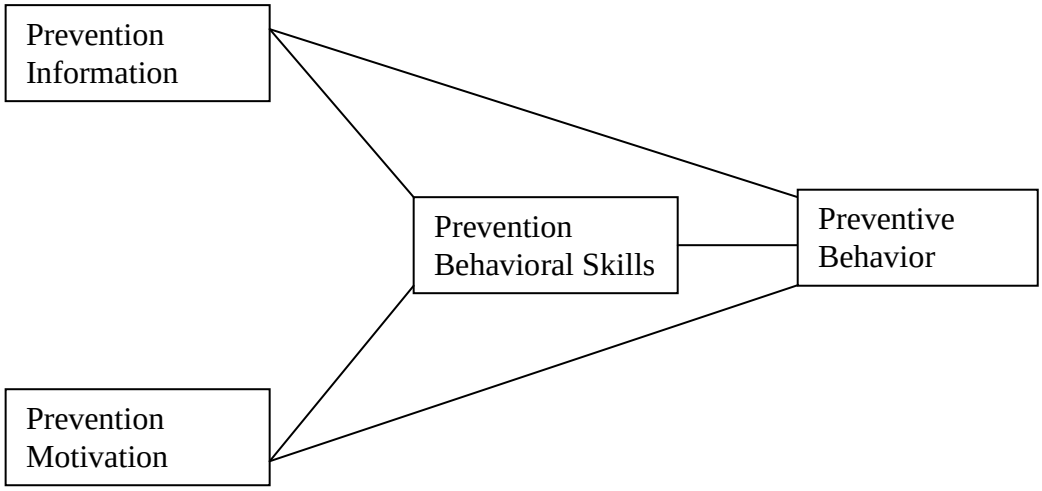


Fig 2: IMB Model of preventive Behavior from Fisher and Fisher

The IMB approach to promoting and understanding preventive behavior specify set of generalizable operations for constructing, implementing and evaluating prevention interventions for particular target populations and behaviors.

The first step in the IMB model in the process of changing preventive behavior involves eliciting research conducted with the sample of the population of interest scientifically identifying population-specific problems and assets in prevention information, motivation,

behavioral skills and risk and preventive behavior. This is instructive for health educationist, for identifying problems and looking inward for areas of strength that can be tapped as examples for information dissemination.

The second step involves the design and implementation of conceptually based interventions. Health educationist willing to design programmes must consider factors such as the level of literacy, belief system and other socio-economic factors.

The third step involves systematic evaluation conducted to determine whether an intervention has had significance and sustained effect on the formation, motivation and behavioral skills. Considerable empirical support for the assumptions of the IMB model abound in research into informational, motivational and behavioral skill determinants of HIV preventive behavior across populations and preventive behaviors of interest. Fisher, Fisher and Williams (1994) A recent study by Brian, Fisher and Fisher (2000) adopted a fine grained approach to empirically test the model's assumptions using a sample of urban minority high school students. The results showed that information and motivation were independent constructs and prevention information and motivation were each associated with prevention behavioral skills. These results provide consistent and detailed evidence that information and motivation stimulates the application of preventive behavioral skills that results in the practice of actual preventive behavior.

Fishbein and Ajzen's Theory of Reasoned Action (TRA)

Fishbein and Ajzen in 1985 propounded the theory of Reasoned Action. It is a well tested and specified model of the psychological determinants of volitional social behavior relevant for understanding and promoting health risk reduction in behavior change. Fishbein, Middlestadt and Hitchcock (1994) This theory believes that an individual's health condition preventive behavior is a function of his or her intention to perform a given preventive act. This presupposes that behavioral intentions to perform a preventive act in turn are a function of two factors: the individual's attitude towards performance of the preventive act (such as breast cancer early detection measures) and the individual's subjective norm or perception of referent support for performance of the preventive act.

According to the theory, attitudes towards a preventive act are a function of beliefs about the consequences of performing the act. Subjective norms concerning breast cancer preventive acts are viewed as a function of perceptions of whether specific categories of referent others want the individual to perform the act. If the individual perceives that these referent groups are opposed to his performing the act, he is not likely to perform the behavior. These beliefs are referred to as normative beliefs.

This theory asserts that it is critical to elicit important beliefs about the consequences of preventive acts and important categories of referents for preventive acts that are important for specific target

populations and preventive behaviors, as opposed to attempting to identify such beliefs and referents intuitively Ajzen and Fishbein (1980).

TRA has significant implications for predicting, understanding and changing breast cancer preventive behavior. Individuals must have formed intentions before they can practice such behavior. Also other individuals will in turn perform these acts when they have positive attitude towards the performance of such preventive acts or perceive social support for performance of the acts.

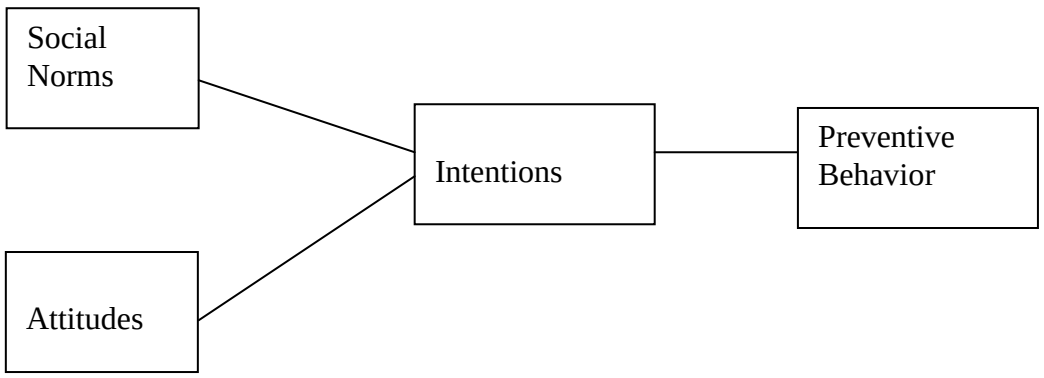


Fig 3: Fishbein and Ajzen (1985)

It also provides a comprehensive conceptual approach to understanding the determinants of preventive behavior and a generalizable methodology for intervening to promote such behavior however, the only barriers identified to accepting preventing behaviors is referent groups.

Theory of Planned Behavior (TPB)

This theory is an extension of the Theory of Reasoned Action (TRA). It adds the construct of perceived behavioral control to the modest original assertions concerning intentions, attitudes and norms as determinants of behavior. It was developed to achieve enhanced ability to predict, understand and change behavior in domains of action that are not entirely under volitional control. Ajzen (1985) (1991) Perceived control is conceptualized as an individuals assessment of the ease or difficulty of performing a given preventive behavior and seen as reflecting individuals controlled beliefs of the degree to which he or she possesses the resources and opportunities necessary for performing the preventive behavior in question. There could be direct and indirect effects of preventive behavior with this model. The indirect effect on behaviors believes that perceptions of control can add to the influence of attitude and norms which can make an individual to intend to perform preventive acts. In individuals who have positive attitudes towards preventive acts of any sort, positive norms concerning performance of the act and perceptions of control over the performance of the act would practice the preventive behavior in question. On the other hand individuals who have positive attitudes and positive norms but who perceives performance of this behavior to be entirely out of his or her control would be less inclined to practice the preventive behavior. Ajzen (1991) suggested that perceptions of control motivate behavioral performance in the presence of positive as well as negative attitudes and norms.

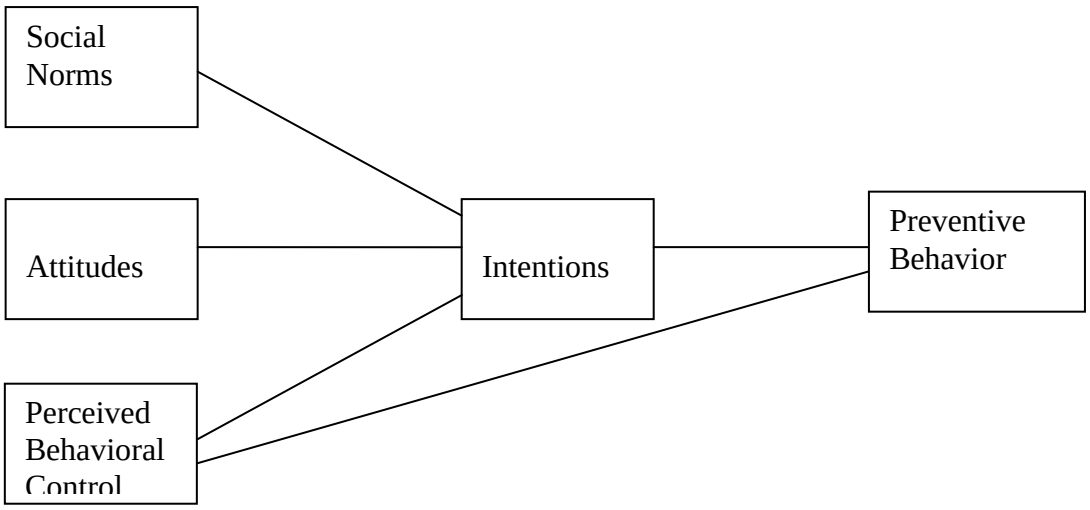


Fig 4: Theory of planned behavior Ajzen (1985)

This model was widely applied in the understanding and predicting social and health related behaviors. Godin and KOK (1996) It has also guided efforts to change preventive behavior in diverse populations Basen- Equist (1994), Bryan et al (1996), Fisher et al (1996) and Jemmott and Jemmott (1992).

Diffusion of Innovation Theory

This theory, developed by Rogers and Shoemaker in 1971 provides detailed explanation on how new ideas, information, products and social practices are spread within a society or from one society to another. Diffusion is the process through which an innovation is communicated through certain channels over time among members of a social system. An innovation on the other hand is an idea,

practice or object perceived as new by an individual or other unit of adoption.

According to Rogers (2000), individuals can be categorized as innovators, early adopters, early majority, late majority, late adopters, and laggards, depending on when they adopt the new idea. This suggests that time constitutes salient element in diffusion processes. Perception of innovations by members of a system determines the rapidity of the adoption of the innovation. Rogers brought out five attributes of innovations:

a. Relative advantage i.e. degree to which a new idea is perceived as being superior to the idea it replaces.
b. Compactibility - the degree to which a new idea is perceived as consistent with the values and needs of potential adopters.
c. Complexity – the degree to which an innovation is perceived as difficult to understand.
d. Trialability - the degree to which an innovation may be experimented with on a limited basis.
e. Observeability – the degree to which the results of an innovation are visible to others. In essence, any innovation perceived as having greater relative advantage compared to existing practice, that is, what obtains in social system will be adopted more rapidly than other innovations.

This theory believes that preventive innovations are characterized by relatively slow rate of adoption. This is always during the early stages of the diffusion process. If the idea is perceived by it's early adopters as relatively advantageous, its rate of adoption will be high because early adopters share their favorable experiences regarding the innovation with potential adopters (.g. breast cancer survivors sharing their experience). This process usually forms an s- shape curve of adoption because of the relatively slow initial adoption, which then speeds up when a ''critical mass'' has occurred and finally levels off in the rate of adoptions as fewer and fewer individuals remain to adopt it.

Research has shown that diffusion of innovations is essentially a social process consisting of people talking to others about the new idea as they gradually shape the meaning of the innovation. In the process of diffusing of new ideas i.e. when about 12-15% of the potential adopters have accepted the innovation, a critical mass which is a point on the s- shape diffusion curve, after which the rate of adoption of self sustaining occurs. Until then, the rate of adoption is more or less a straight line but after this critical mass point, rate of adoption increases. In essence, diffusion programmes aim at reaching critical mass after which continuing promotional efforts to diffuse the information can be diminished. The theory identified different communication channels to enable free and effective communication. These include: mass media and interpersonal channels. For effective health education programmes where mass

media channels are used, interpersonal channels such as opinion leaders, market women leaders and all forms of face to face communication channels should be additional attractions and very adequate.

2.20 Influence of Knowledge on Prevalence, Awareness and Perception of Breast Cancer

Olopade (2004) carried out a research involving untangling the genetic and environmental factors which contribute to early onset breast cancer among African-American women in which she used the genetics as well as the reproductive, social dietary, professional and cultural lives of the women diagnosed with breast cancer. Without access to optimal treatment, 500 of them died within a few months. Durosimi (2004) on his part had a similar experience with the management of 213 patients with Burkitt's lymphoma over a period of 13 years. Over 75% of these patients presented the conditions at advanced stage, 132 i.e. 62% received less than the recommended number of cycles of chemotherapy before 10 voluntarily discharged themselves from the hospital and 4 i.e. 31% of them did not complete a single cycle of chemotherapy. The default rate was unacceptably high according to him with 160 patients i.e. 77.9% failing to return for out-patient visits after a median follow-up period of 2.3months.

Adebamowo and Ajayi (2000) gave the highest age of breast cancer incidence in Nigeria as about 42.5 years and 12% of cases occurring before 30 years, while post menopausal women accounted for 20% of cases. Oluwatosin and Oladepo (2006) gave occurrence age as 43-50 years. The slight difference noticed here could be explained in relation to demographic profile, environmental factors and other socio-cultural practices that affect women. These researchers in the same vein with Okobia et al (2006) however concluded that calamity loomed because majority of cases were presented at advanced stage, probably due to lack of knowledge of what was taking place in their bodies, coupled with inability to purchase anti-cancer drugs, lack of human and material resources and lack of adequate facilities in Nigeria.

Another research by Oluwatosin and Oladapo (2006) which determined the level of awareness of breast cancer and its early detection measures among rural women in Akinyele local government area in Oyo State of Nigeria had the conclusion that respondents lacked knowledge of vital issues about this condition and its early detection measures. Information was not forth coming to them from designated health centers and hospitals. The study also revealed that the relative frequency of breast cancers among females obtained from cancer registries in Nigeria were 35.5% in Ibadan, 28.2% in Ile-Ife, 44.5% in Lagos, 20.3% in Zaria and 29.6% in Calabar among others. These statistics can only account for

registered cases. This presupposes then that most cases not registered are lost to accountability and cannot be worked with.

Oluwatosin and Oladapo (2006), Okobia (2006) carried out cross-sectional studies designed to access the knowledge, attitudes and practice of community dwellers particularly in Nigeria on breast cancer. Results emanating from the studies showed that participants had poor knowledge of breast cancer. Mean score on knowledge, according to Oluwatosin and Oladapo (2006) was 42.3% and only 24 participants i.e. 21.4% knew about breast cancer as presenting a painless breast lump. Practice of breast self examination (BSE) was low as only 432 participants i.e. 43.2% admitted doing it and 91 of the participants i.e. 9.1% had clinical breast examination (CBE). This indicated therefore, that communities in Nigeria have very poor knowledge of breast cancer and only minority practice BSE and CBE. Orija (2007) pointed out that awareness and knowledge in Nigeria is poor because people normally ascribe incidence of such conditions as breast cancer to the works of witches. Breast cancer is a menace and there is need to enlighten women, awaken their consciousness and put strategies in place to disabuse their minds from psycho-socio-cultural beliefs by cracking down the walls built by myths and societal norms about breast cancer.

Adesunkanmi, Lawal, Adesola and Durosinmi (2006) who designed a study to investigate the challenges, severity and factors influencing

the outcomes of the management of breast cancer in a Nigerian teaching hospital confirmed this statement. In the study, clinical records of patients seen with breast cancer over 8 years period (1996-2003) in two units of the teaching hospitals were reviewed. These two units served the urban and rural communities of some parts of Southwestern Nigeria. 212 patients with breast cancer were seen over the period of the study. The mean age was 48 years (23-85 years). There were 211 females and 1 male. 103 patients i.e. 48.7% had either post primary or tertiary education. A proportion of 66.7% were pre-menopausal, 79.2% had pregnancy early in life and were multiparous. These also gave a history of prolonged breastfeeding of their children. The tumor discovered was self-detected in 195 (92%) Mean duration of symptoms was 11.2 months (9 days –7 years). Pain in 100 patients (47% was the common symptom and the cancer was in the left breast in 113 (53.3%. Localized cancer was in the upper outer quadrant in 85 (40%) whereas the whole breast was involved in 55 patients (26%). Loco-regional features of advanced cancer were seen in 157 patients (74%) and only 70 (33.2%) were known to have received radiotherapy among those referred to the Radiotherapy unit with associated far treatment compliance after surgery. Outpatient clinic attendant was also very poor. Only 27 (12.7%) were still being seen in the clinic. 83 patients (39%) were known to be dead and 102 patients were lost to follow up. The case seemed to be as bad as this because of lack of knowledge.

Some researchers have undertaken to determine awareness level of the disease in various part of the country. Okobia, Bunker, Okonofua and Osime (2005) conducted a study using 1000 community dwellers from semi-urban neighbourhood in Nigeria. Interview and questionnaire method were designed to elicit socio-demographical information and knowledge, attitude and practice of breast self examination from respondents. The result showed that there was poor knowledge as knowledge score was 42.3%, only 214 participants (21.4%) knew that breast cancer presents a painless lump. BSE was low as 432 i. e (43.2%) admitted the practice. 91 study participants, i. e. (9.1%) had CBE in the past year i. e. (80.66%). Women with high level of education and those employed in professional jobs, (Chi. 2 = 47.1, P < 0.0001) were significantly more knowledgeable about breast cancer. Participants with higher level of education were 3.6 times more likely to practice BSE i. e. 95%. The conclusion was there was very poor knowledge of breast cancer and the practices probably due to the level education of respondents. Yecel, Bdermerck Car EllDokuz Albayrak and Haktanin (2004) of the Department of Radiology, Faculty of Medicine Ayun University in Turkey did another study on knowledge about BSE and mammography in breast screening among women awaiting mammography. Result of the study revealed that 49.3% were not aware of the high risk from breast cancer. Knowledge about methods of diagnosis of breast cancer and its' screening practices were also

lacking. Few had information about mammography i. e. 38.3% and this was the largest group.

Third world is characterized by late presentation, occurrence at relatively young age and dismal mortality. Poor outcome has encouraged patients to patronize quacks and alternative healers. Confirming this assertion, Anyanwu (2008) initiated a study in 1985 for all breast cancer patients attending 4 hospitals located in the Eastern Nigeria heartland where he practiced. Epidemiological data including social habits were collected from patients. The reports from 1987 – 97 showed peak age ranges were 30 – 39 and 40 – 49. Less than 10% of patients were aged less than 30 years and more than 70 years. For example Olopade (2004), Okibia, Bunker, Okonofua, and Osime, (2006), Oluwatosin, and Oladapo, (2006), Orija (2007) show that awareness is lacking about the detection, prevention and intervention techniques of breast cancer though these studies were cross sectional in nature. On influence of knowledge on perception of breast cancer intervention techniques, a study conducted by Garza et al (2004) which was a culturally targeted intervention to promote breast cancer screening among low income women, concluded that lower rates were reported in screening yet they maintained 50%. This lower rate came about as a result of the cultural undertones and lack of knowledge influencing behaviour change among low-income communities.

When knowledge of the influence of risk perception of breast cancer particularly on the screening decisions is reported to be inconsistent, it could affect the knowledge passed down to the generality of the people and this would in turn have adverse effect on their perception. Vernon et al (1993) posited that some researchers linked over-estimation and high level of distress to excessive breast cancer screening while others have reported under utilization of recommended screening. Studies by Kash et al (1992), Lerman et al (1993), (1994), Clemowe et al (2000) reveal this trend.

Grundfeld, Ramirez, Hunter and Richards (2002) of the Psychological Unit of St Thomas Medical School Guys Campus London observed that 20 – 30% delayed for 12 weeks or more from self-discovery of a breast symptom to presentation to a health care provider associated with poorer survival. For this reason they did a study to elicit knowledge and belief about breast cancer among the women. A sample of the general women population was chosen and socio-economic variations in responses in the U.K. 996 women were randomly selected through the postal address file and data were collected though the office of the National Statistics.

Knowledge of breast cancer risks, symptoms and their perceptions of the management and outcomes associated with breast cancer and it was revealed that women had limited knowledge of their relative risk of developing breast cancer, of associated risk factors and of the

diversity of potential breast cancer related symptoms. Older women were particularly poor at identifying symptoms of breast cancer risk factors, associated with breast cancer and their personal risk of developing the disease. In essence, the findings stipulated that any intervention programme should target older women in particular, given that advanced age is a risk factor for both developing breast cancer and for subsequent delayed presentation.

In the School of Nursing and Department of Health care and Epidemiology, University of British Columbia, Canada, a research was undertaken by a group of researchers to assess women' s interest in genetic testing for breast cancer risks. 761 women were randomly selected from women in the community of British Columbia who had not been diagnosed for breast cancer, 260 women with breast cancer from the provincial cancer Registry were also co-opted to participate in a telephone survey that assessed interest in genetic testing for breast cancer risks, knowledge of hereditary breast cancer and testing including socio-demographics. Women with breast cancer were compared with women from the general public.

Out of the women with breast cancer, (30.8%) reported interest in testing or having been tested compared with 28.5% of women without breast cancer controlling for difference with age, education, personal history of breast cancer and knowledge of genetics. Women with at least one relative with breast cancer were 2.3 times more

likely to express interest in genetic testing for risk factors than those with no family history. There were significant interactions between breast cancer status and education and between age and knowledge of breast cancer genetics. Women without breast cancer but with a positive family history between ages 20 and 40 years were more likely to be interested in testing. Women with breast cancer and are interested in testing tended to be less than 50 years of age, had a positive family history and had more years of education. This research undertaken concluded that women with a family history of breast cancer, well educated and younger and women particularly with knowledge of genetic testing are important target audiences for community-based education on genetic testing for breast cancer risks (Buttorf, Ratner, Balneaires, Richardson, McCullum, Hack, Chalmers and Buxton (2002).

To determine the use of breast cancer screening among workers in urban Mexico, Wall, Nunez-Rocha, Salinas-Martinez, Sachez-Renia (2008) undertook a study aimed at determining critical factors influencing the use of clinical breast examination and mammography among women workers. They defined cases according to the guidelines of the Official Mexican Standards as lack of at least one clinical breast examination during the past year by surveyed women. Controls were defined as adherence by surveying them to these same guidelines.

Participants (N= 306, Clerks aged 18 – 60 years of age provided information regarding their practices, knowledge and perception of breast cancer screening.

Factors identified by odd ratio analysis as significantly different between cases and controls were analyzed by multi variate logistics regression. The result showed that survey participants' knowledge about the utility of breast self examination was low (odds ratio, 6.0, 95% confidence interval, 10 -33, 9) Perception that the health care system has enough equipment and personnel for clinical breast examination (odds ratio, 4.7, 95%) Confidence interval 1.7 = 13.2) and perception that they have enough time to wait for and receive clinical breast examination (odds ratio (2.5, 95% confidence interval. 1.1-5.8) significantly predispose women to use screening services independent of years of formal education, number of pregnancies, number of living children, hours worked per week and monthly family income. The conclusion was that perception of organizational and structured factors played a significant role in screening use. The findings also has implication, according to the researcher for the general population, provider of health care delivery, community interventions and future development of strategies to increase use of screening services in similar locations.

Individuals at increased risk of developing breast cancer due to their family history of the disease face a number of uncertainties. Personal cancer risk estimates are not precise and current methods for early detection or prevention are not 100% effective. Rees, Fry and Cull (2001) are also of the opinion that adverse psychosocial outcomes have been described within their population. Attempting to predict the incidence of distress and dysfunction in individuals at increased risk of cancer has been largely theoretical and overlooked a number of potentially important predictive variables. In particular the influence of personal experience of cancer and involvement with affected relatives has been neglected. There are strong theoretical grounds for hypothesizing that dimensions of personal experience may influence response to cancer risks. This paper discussed the potential impact of personal experience on risk perception, illness representation and decision-making. Systematic responses in this area may improve predictions of outcomes of cancer genetics counseling and inform the clinical processes.

However, though this risk perception is important in theories of health behaviour, but the standard measures of breast cancer risk perception have not been consistently utilized. The use of a variety of assessment procedures to measure risk perception and its accuracy may contribute to conflicting findings noticed (Vernon 1993).

2.21 Summary

Considering the discussions of the various theories, it is pertinent that a comparative analysis of the theories discussed be done. With regard to comprehensiveness, the TRS and TPB focused on a relatively narrow range of primarily motivational factors used to conceptualize the determinants of preventive behaviors. The IMB is a conceptually broader account of a wider range of factors that may finally prove necessary for understanding and changing preventive behavior. With regard to specificity, the TRA TPB and IMB completely specify all relationships among the different constructs proposed, although these specifications are sometimes subject to question and revision on the basis of the findings examined. This degree of specificity of a model places fundamental limits on the precision of model testing research, the ability to conduct other tests, and apply models to understanding, predicting and changing preventive behavior Peterson and Diclemente (2000).

With the Diffusion theory, an even greater emphasis on interpersonal peer communication is indicated when the innovation is preventive and has beliefs about taboo as in the case of breast cancer. Under this special condition, health educationist must be particularly careful with their audience. Change agents must not be judgmental when the behavior change involves an issue that is considered or perceived as abnormal and not conformable to the status quo.

However, according to Fisher and Fisher (2000), no single theory can adequately apply to any broad intervention programme though some important and strong points of each of the models could be integrated for any prevention. Each theory gives ideas for a particular intervention in very different ways.

Ememe (2008) documented that these theories did not address the influence of the environment on health behavior. This influence cannot be however, overemphasized because according to her, the different environmental or social settings have different expectations from the individuals that live in that environment such that what constitute acceptable behavior in one environment may not be acceptable in another.

CHAPTER THREE

METHODOLOGY

This chapter discusses the research design adopted in surveying the stated problem and testing hypotheses. It explains and describes the sample and systematic procedures followed in selecting samples and instruments used for the study. Here is a summary of the section:

i. Research Design
ii. Population of the study
iii. The study area
iv. Sample and sampling procedure
v. Instrumentation
vi. Validity of questionnaire
vii. Reliability of Instruments
viii. Method of data administration and collection
ix. Method of data analyses

3.1 Research Design

The study adopted the descriptive survey research and qualitative research methods. The descriptive survey research method was chosen because it adopts the scientific method that explains, predicts and controls phenomena. (This work has scientific background) It also concerns itself with conditions or relationships that exist, practices that prevail among people, beliefs, points of views and

attitudes of peoples and communities. In addition, processes going on in the society, effects of these processes and their trends are all concerns of survey research method. (Asika, 1991, Schaeffer, 2003, Osuala 2005 and Popoola, 2007) On the other hand, the qualitative research method sought information for the psychological aspect, which is more of feelings, emotions and attitudes.

3.2 The Population of the Study

The population of this study consists of women aged between 15 and 60 years resident in selected local government areas in the state. This group was chosen because a previous study by Oluwatosin and Oladepo (2006) showed this age bracket to be paramount in risk assessment. In addition, previous studies have indicated this group as having high risk for breast cancer (Adebamowo and Ajayi, 2000).

3.3 The Study Area

Lagos State was created on May 27, 1967, through Decree Number 14 by the Federal government. What was then the Federal Capital of Nigeria was merged with the old Colony province of the defunct Western Region of Nigeria to form the new State. The State lies approximately between longitude 2° 42 East and 3° 42 East and latitude 6° 22 North and 6° 52 North. It is bounded in the South by the Guinea Coast of the 180 km Atlantic Coastline, In the West by the Republic of Benin and in the North and East by Ogun State (Odumose, Balogun and Ojo 1999) The State has 20 registered local

government areas namely Agege, Alimosho, Ubeji-lekki, Surulere, Ojo, Lagos Island, Awori-Ajeromi, Ifelodun, Shomolu, Epe, Ikorodu, Apapa, Eti-Osa, Badagry, Lagos Mainland, Ikeja, Mushin, Kosofe, Amowu-odofin and Ifako-Ijaiye. It has a total area of 3,577 square kilometers about 22% of which is water (Oke et al, 2000). Despite its position as the smallest State in the Federation in terms of land mass, occupying only 0.4% of the area of Nigeria, it has gone through series of administrative transformation to metamorphose into a frontline position amongst her 36 states and the Federal Capital Territory, making up the federation of modern day Nigeria. Lagos State with a population of 9,013,534 million distributed as 4,678,020 males and 4335514 females is the most urbanized State in Nigeria. In 1963, the population of Lagos State was 1,444,000 with 603,000 males and 591, 000 females. This grew to 5,725116 in 1991 with a male population of 3,010,604 and 2,714,512, females. The population density of Lagos State is 2,455 (National Population Commission and National Bureau of Statistics, 2006).

Over 50% of industries in Nigeria are located in the State, contributing about 70% of the National Gross Industrial Output (Oke, Adedokun, Ogunlade, Soretire, Adetoro and Faweya 2001). The State accommodates about 6.2% of the total population of Nigeria and its annual population growth rate is over 9%.

The sample area is chosen because all the main ethnic groups in Nigeria i.e. Yoruba, Igbo, Hausa and others are well represented in

Lagos State. This gives a good feel of the national composition. It is also a cosmopolitan city, the most densely populated in Africa and until recently, it was the seat of government. These statistics make the state attractive for research activities.

3.4 Sample and Sampling Procedure

Samples were drawn from women aged between 15 and 60 years, Government and Non- government organizations and selected medical institutions for breast cancer records.

Women Respondents

A total of 1000 respondents were selected for the study. 200 respondents were chosen each from Mushin, Epe, Ikeja, Ubeju-lekki and Apapa. These Local Government Areas represent the urban and rural settings. This choice was arrived at through simple random sampling technique. This technique was adopted because the 200 respondents in each of the selected Local Government Area (LGA) belong to the same age brackets (15 – 60 years) and have been resident in the Local Government Area in question for at least a period of six months. Markets, churches, mosques and offices in the five selected local government areas were identified and selection was done through random sampling technique. These locations were chosen because these were locations women frequent for various activities. A total of 10 respondents each were sampled from each of the five churches, five mosques, five markets and five offices in each of the LGA. 200 respondents from each of the five LGA will sum up to

1000 respondents in all. Random sampling technique was also used to determine respondents who filled the questionnaire in the selected LGA.

Governmental Organization

Governmental Organizations directly involved in creating awareness on breast cancer were selected and structured interviews were conducted. Representatives of the government on Health and Women affairs i.e. Ministry of Health and Ministry of Women Affairs and Poverty Alleviation were interviewed. These ministries are government owned ministries who represent government interest in awareness creation on breast cancer in the State. This gave room for better understanding of the contributions of Lagos State government towards curbing the spread of breast cancer disease.

Non-governmental Organizations

Founders of two Non Governmental Organizations directly involved in awareness creation in the State were also interviewed. These are the Care Organization Public Enlightenment (COPE) and Bloom Cancer Care and Support Services. The COPE and Bloom organizations were chosen for the study because they are very prominent in awareness creation in the state.

Medical Institutions

Health medical reports were retrieved from both government and private hospitals. There is only one Federal government hospital in Lagos State and it was chosen as one of the study centers. This is the Lagos University Teaching Hospital (LUTH) Idiaraba. Though, there are numerous private hospitals in the State, only one (1) i.e. Eko hospital was selected for use in this study because it has facilities for breast cancer treatment and other hospitals make referrals to it.

General hospitals in Lagos state are numerous, but only the ones in Orile –Agege, Lagos General Hospital, Gbagada, and Ikorodu General Hospitals were selected for the study. These were selected because of their geographical locations and the large size of patients attended to. Orile-Agege in particular was chosen because it is the designated breast cancer treatment center for the state.

3.5 Research Instruments

The study generated data mainly from primary sources. This was made possible with the use of the questionnaire, interview schedule and breast cancer records.

The questionnaire:

The questionnaire was used because according to Popoola (2007)

a. Questionnaire is very efficient in studying people's attitudes, beliefs, values and behaviours.

b. It can be used to retrieve tremendous information from a large group of people at the same time.
c. It can be mailed to people and quality information retrieved from them.

One set of questionnaire was developed for women tagged "Women Questionnaire" (WQ) which had 43 questions and administered to randomly selected respondents in selected locations in the 20 Local Government Area.

This instrument was divided into 4 sections (A-D). Section A is made up of six questions designed to determine the bio-data of the respondents. Section B has seven items that sought to determine respondents' awareness about health facilities in their areas. Section C consists of eight items rated in 4-point Likert scale to elicit responses on how regular they are in performing the indicated activity. Section D consists of 18 items designed to determine respondents' awareness and willingness to engage in stated activities related to breast cancer, assessment of women's emotions and feelings, fears, anxiety and worries. All questions in this section were to determine the effects of psychosocial factors.

Three and Four-point Likert scale were used and the respondents were asked to tick the appropriate column corresponding to the degree to which they are willing or unwilling to perform the statements. Examples of options available were Quite unwilling (QUW), Unwilling (UW). Willing (W), and Quite Willing (QW).

Interview schedule:

Interviews were conducted with Medical Care Givers in all the selected hospitals. To this effect, an interview schedule was designed. Interview schedule was chosen because it has similarities with the questionnaire and permits the interviewer the opportunity of clarifying any questions that are obscure and also ask the respondents to expand on answers that are particularly important or revealing.

The interview schedule for Medical Care Givers contained 34 questions divided into 3 sections namely A-C. Section A was designed to elicit the hospital's bio-data. Section B asked questions which sought to know the adequacy of diagnostic machines and Section C asked various questions on the patients, their awareness of breast cancer, willingness to allow CBE and accept diagnosis and available treatment options.

Interviews were equally conducted with Governmental and Non Governmental Organizations involved in creating awareness on breast cancer in the State. The interview schedule contained 28 questions divided into three sections Section A had questions designed to determine the organization's bio-data, section B asked questions on organization's knowledge of women's awareness about breast cancer and section C determine plans put in place by the organization towards breast cancer awareness in the State.

Breast cancer records:

Available records on breast cancer prevalence were retrieved from the selected hospitals. These were records on breast cancer for a period of 11 years i.e. 1997 – 2007.

3.6 Pilot Study

An initial study was undertaken before the main study. This is in order to identify areas where difficulties may arise if directly administered to the population chosen.

Another reason for the pilot study was to ascertain if the statistical tools would be adequate. Fifty questionnaires were administered in Eti-Osa local government area of the State. Eti-Osa was chosen for the pilot study because the LGA is a mixture of both rural and urban dwellers. This gives the researcher the opportunity to have a feel of both rural and urban areas. These same questionnaires were administered on the same samples within two weeks interval. The data generated from this pilot study were used to test two of the formulated hypotheses. After the analysis, the following results were obtained:

1. Women's level of education or educational qualification significantly affects their awareness of breast cancer and it determines their willingness to discuss and participate in breast cancer awareness programmes.
2. Women's awareness of breast cancer significantly affect their practice of breast self examination and clinical breast

examination but it does not significantly influence the regularity of their practice of breast self examination and clinical breast examination.

The pilot study helped to determine the reliability of the instruments used in the study.

3.7 Validity of Instruments

The validity of the instrument was established by giving copies of the questionnaires to experts in the field of Radiology, Oncology, Education, psychology and Statistics.

Their comments, modifications, suggestions and experiences helped immensely in putting the instrument in a better shape before it was finally applied in the study These seasoned experts made particular observations regarding the relevance of the instrument and their contents, the ambiguity or clarity of the items on the instruments and more importantly comments were made on the ability of the items on the instruments to elicit justifiable and appropriate results when taken to the field.

3.8 Reliability of the Instruments

The reliability of the questionnaire was determined by using the test–retest technique. The instruments were administered on 50 respondents in Eti-osa Local government area of Lagos State. After two weeks, the same questionnaire was administered on same respondents. The Cronbach's Alpa reliability test based on

Standardized items was used and the test showed a reliability co-efficient of 0.712.

3.9 Procedure for Data Administration and Collection

The researcher personally administered the questionnaire with the assistance of research assistants. The assistants were thoroughly trained on administration of the questionnaires and a total of 1000 questionnaires were administered to the respondents. In distributing the questionnaires, each Local Government Area was visited within a period of one week and questionnaires were distributed and collected. A letter of introduction was collected from the Head of Department of Adult Education to various medical institutions, government organization and non-government organizations to be visited. This was necessary because the researcher wanted free access to these organizations. To have access to collect health records from the general hospitals, another letter of introduction was collected from the Lagos State Health Service Commission stating the mission of the researcher and the need to allow her access. All these steps helped tremendously in the successful collection of data.

3.10 Method of Data Analysis

All information received on the questionnaires were collated and compiled. Adequate inferential statistics such as Chi-Square, the Two-way ANOVA and Test of proportion were employed for testing hypothesis. Duncan Multiple Range Tests were also used for testing related hypotheses.

Descriptive statistics such as percentages was used to analyze the data. Factor Analysis method was also employed in the study. The Chi-Square was used because data were presented in frequency counts. ANOVA was used because it is adequate for any observation that involves only two groups and only a single factor. It also enables us to measure and evaluate the interactions of groups and factors involved in the study.

Factor Analysis was adopted to detect structures in the relationship between variables and classify and condense them into fewer principal components. However, its' use in this work was limited to discovering the main psycho-social factors responsible for breast cancer awareness, prevalence and perception. Test of proportion was used to determine the proportion of professions studied and the Duncan multiple range tests were also used in addition to identify homogenous subsets of means that are similar.

Basically, hypotheses one, two, six and seven were tested using the Chi-square (χ^2cal) statistical method. For hypothesis three and four, the Two-way Analysis of Variance (ANOVA) and the Duncan Multiple Range Tests were adopted for test purposes and for hypothesis five, the test of proportion was used to determine the profession with the highest prevalence of breast cancer. Simple percentages were used for data analysis.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

This chapter presents the result of the findings of the study and is organized under the following sub-headings**:**

- Data presentation
- Data analysis and testing of hypotheses
- Discussion of findings

4.1 Data Presentation

Table 4:1: Age Distribution of Women Respondents

Age	No	%
15 – 19	80	9.2
20 – 24	96	11.03
25 – 29	143	16.44
30 – 34	150	17.24
35 – 39	138	15.86
40 – 44	100	11.5
45 – 49	51	5.86
50 – 54	62	7.13
55 – 60	50	5.75
Total	**870**	**100.00**

This table indicates that age group 25 – 29 and 30 –34 has the highest respondents. 143 (16.44 percent) of the respondents were aged between 25 – 30 and 150 (17.24 percent) were between 30 – 34 years of age, These two age - groups were closely followed by age-group 34 – 39 with 138 (15.86 percent). In this study, majority of respondents fell into these groups while the rest are between age groups 15 –19 having 80 (9.2 percent) Age-groups 20 – 24 had 96 (11.03 percent) respondents, 40 –44 was 100 (11.5 percent), 45 –49 was 51 (5.86 percent). Respondents in Age-groups 50 – 54 were 62 (7.13 percent) and 55 and above were 50 (5.75 percent).

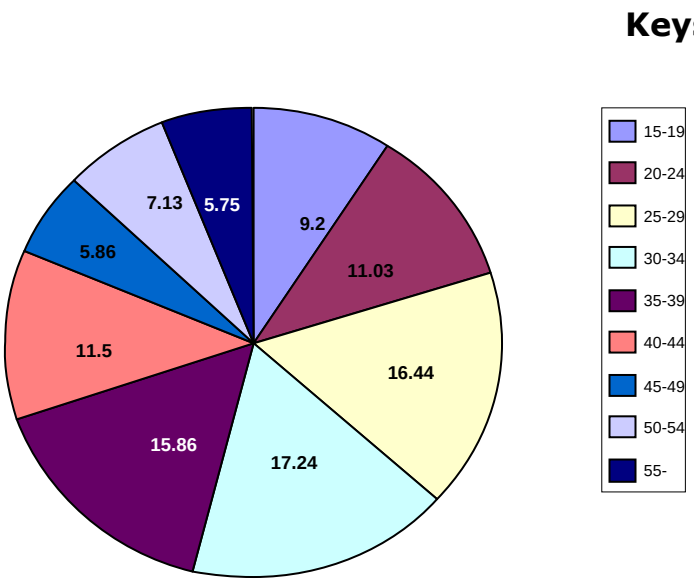
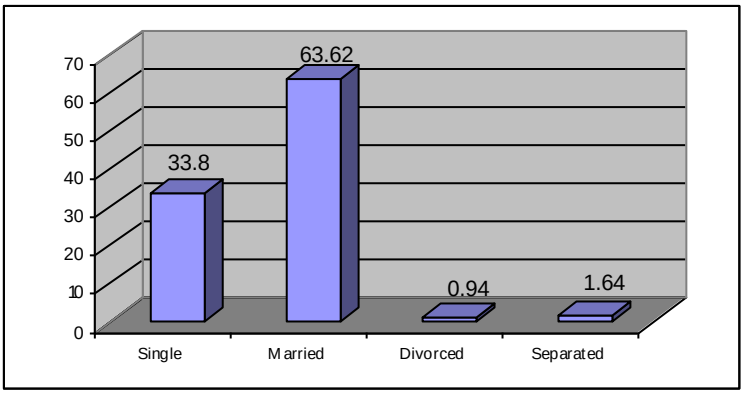


Fig 6: Pie Chart representing Age Distribution of Women Respondents

Table 4.2: Distribution of Women Respondents by Marital Status

Marital Status	No	%
Single	288	33.8
Married	542	63.62
Divorced	8	0.94
Separated	14	1.64
Total	**852**	**100**

On marital status, table 4.2 indicates four categories of women namely single, married, divorced and separated. Out of all these groups, married respondents had a total of 542(63.62%) topping the list. The single respondents were a total of 288(33.8%). Other groups such as divorced and separated had 8(0.94%) and 14(1.64%) respectively. This indicates that majority of women interviewed were either married or single while other categories were few such as the separated and divorced.



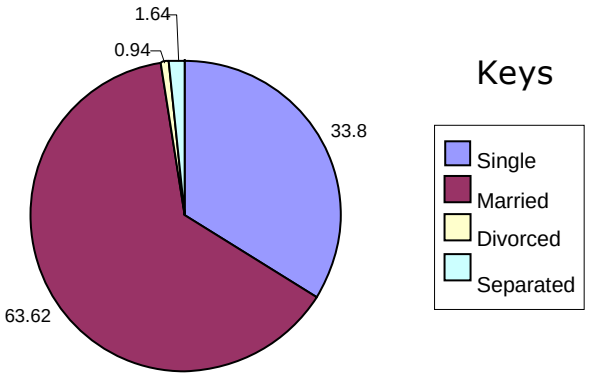
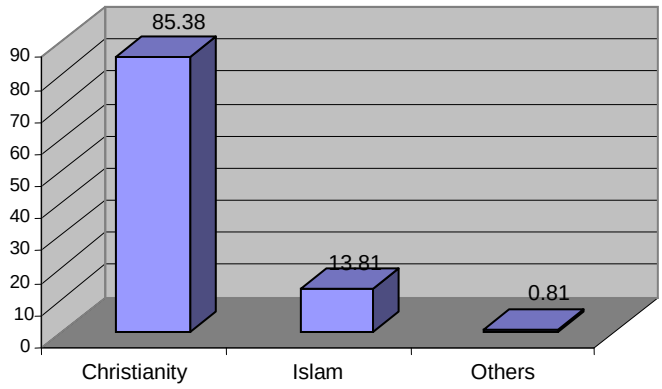


Fig 7: Column and Pie Chart Showing Distribution of Women Respondents by Marital Status

Table 4.3: Distribution of Women Respondents by Religion

Religion	No	%
Christianity	736	85.38
Islam	119	13.81
Others	7	0.81
Total	**862**	**100**

Table 4.3 shows three religious affiliations. These were Christianity, Islam and others. From the table above, Christianity scored highest with a total of 736 (85.38%) Islam has 119 (13.81%) Other religions had 7 (0.81%) It can be deduced that majority of the women are Christians while other religions formed the lowest group.



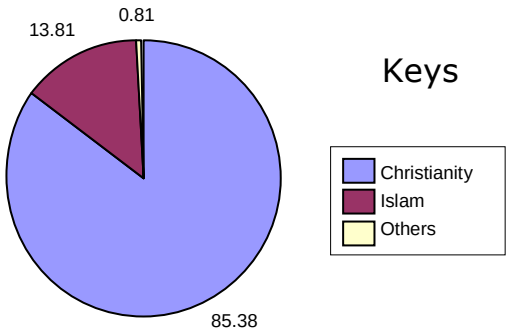
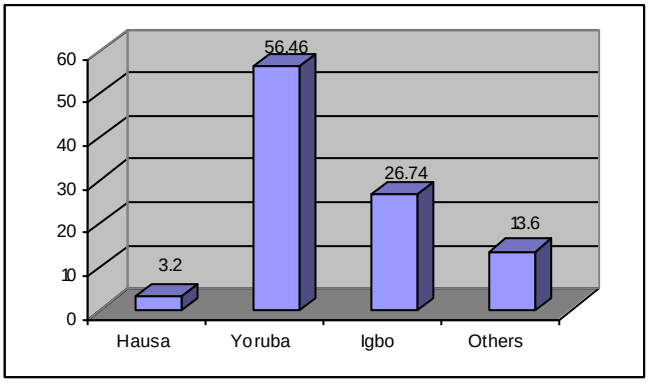


Fig 8: Column and Pie Chart Showing Distribution of Women Respondents by Religion

Table 4.4: Distribution of Women Respondents According to Ethnic Group

Ethnic group	No	%
Hausa	28	3.2
Yoruba	494	56.46
Igbo	234	26.74
Others	119	13.6
Total	**875**	**100**

On respondents' ethnic group, the table above indicates three groups. The Hausa group recorded a total of 28 (3.2%), Yoruba group recorded 494 (56.46%) Igbo had 234 (26.74%) and other ethnic groups recorded 119 (13.6%) This shows that majority of the respondents were of the Yoruba ethnic group. This could be due to the fact that the research was conducted in Lagos state which is a predominantly Yoruba environment.



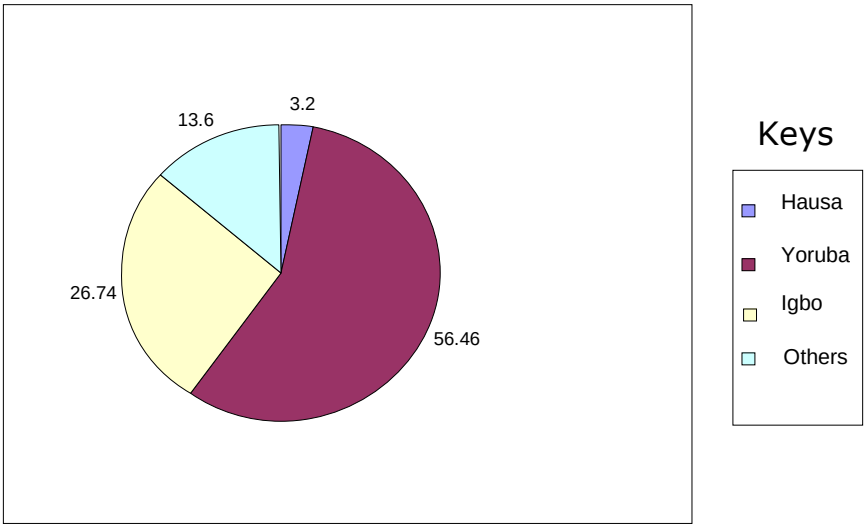


Fig 9: Column and Pie Chart Showing Distribution of Women Respondents According to Ethnic Group

Table 4.5: Distribution of Women Respondents On Account of Educational Qualification

Educational Qualification	No	%
Non-literate	30	3.5
Pry Sch Cert	71	8.28
Sec Sch Cert	262	30.54
OND/NCE	190	22.14
B.A/HND	239	27.86
Others	66	7.7
Total	**858**	**100**

From table 4.5 above, respondents were grouped into six classes. These are the non-literates, who recorded 30 (3.5%), primary school certificate holders with 71 (8.28%), Secondary school certificate holders were 262 (30.54%) which seems to be the highest recorded qualification. Other qualifications include Ordinary National Diploma and National Certificate in Education certificate holders who had 190, (22.14%), Bachelor of Arts and Higher National Diploma also scored 239 (27.86%). Other certificates apart from those listed above represented "Others" and this group scored 66 (7.7%). The researcher read the questions to the Non-literate and Primary school certificate holders and they were asked to respond to the questions while the researcher ticked the identified options.

Table 4.6: Distribution of Women Respondents by Occupation

Occupation	No	%
Self employed	314	37.51
Civil servant	290	34.7
Professionals	75	9
Others	158	18.64
Total	**837**	**100**

Data generated on respondents' occupations reveals that majority of respondents are self-employed. This group recorded a total of 314 (37.51%) Civil servants also had a high attendance as 290 (34.7%) were recorded. Respondents in the Professional group accounts for 75 (9%) of the respondents while other occupations accounted for 158 (18.64%).

Table 4.7: Distribution of Women Respondent According to Duration of stay in Local Government Area

Duration in LGA	No	%
Less than 2 years	104	12.62
2 - 5 years	281	34.1
6years and above	439	53.31
Total	**824**	**100**

Majority of respondents seem to have stayed long in their respective local government areas. 439(53.31 percent) indicated having stayed in their respective Local Government Areas for upwards of six years. Group two, about 281 (34.1 percent) also signified staying in the designation for between two and five years while only 104 (12.62 Percent) were less than two years in their present residences.

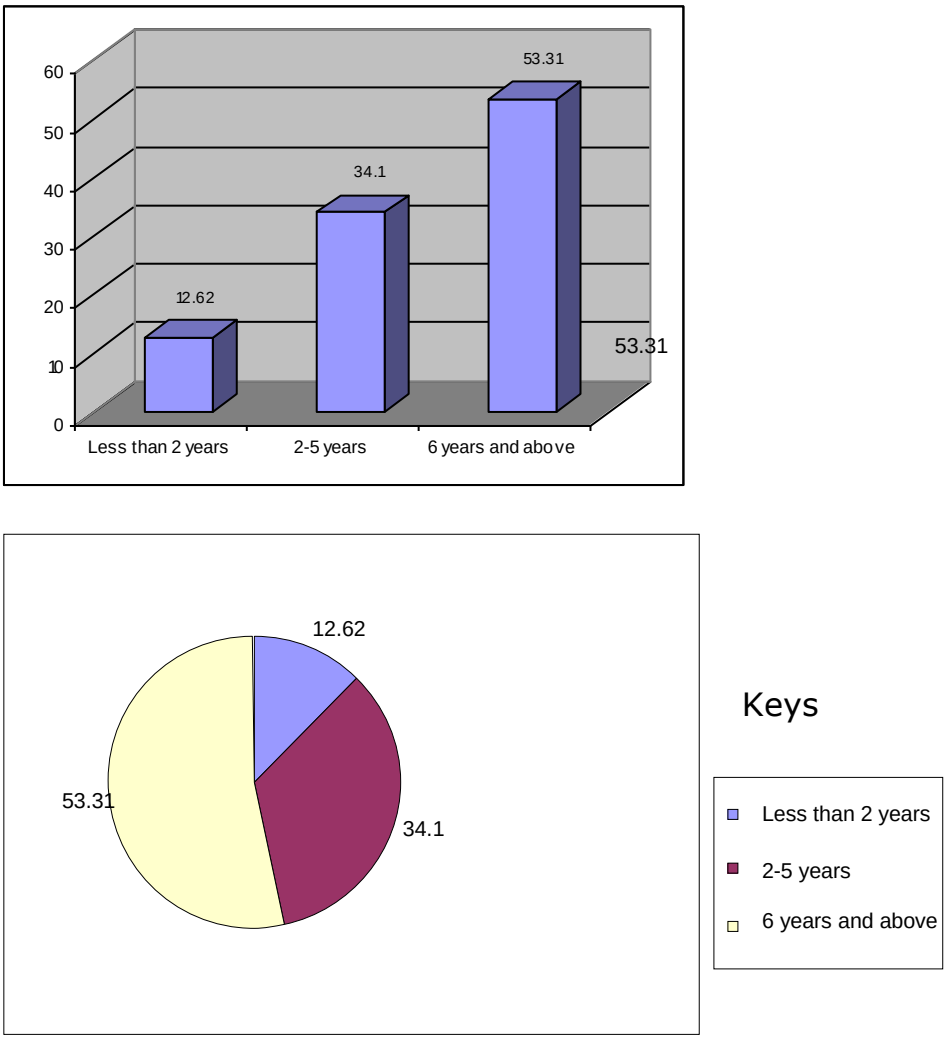


Fig 10: Showing Column and Pie Chart Distribution of Women Respondent According to Duration of stay in Local Government Areas

Table 4.8: Distribution of Women Respondents According to their Attitude towards Breast health

Respondents Attitude	No	%
Very enthusiastic	198	24.18
Enthusiastic	160	19.54
Lukewarm	215	26.3
Uncooperative	84	10.3
Indifferent	162	19.8
Total	**819**	**100**

Attitudes of respondents were towards breast health were grouped under five categories. The table indicates that most respondents are lukewarm towards breast health 215 (26.3 percent), 84 (10.3 percent) were uncooperative and 162 (19.8 percent) were indifferent. However, positive attitudes such as "Very enthusiastic" and "Enthusiastic" scored 198 (24.18 percent) and 160 (19.54 percent) respectively. If one compares the positive and negative attitudes, it will be discovered that 358 (43.72 percent) were positively disposed to breast health while 461 (56.4 percent) were negatively disposed to breast health.

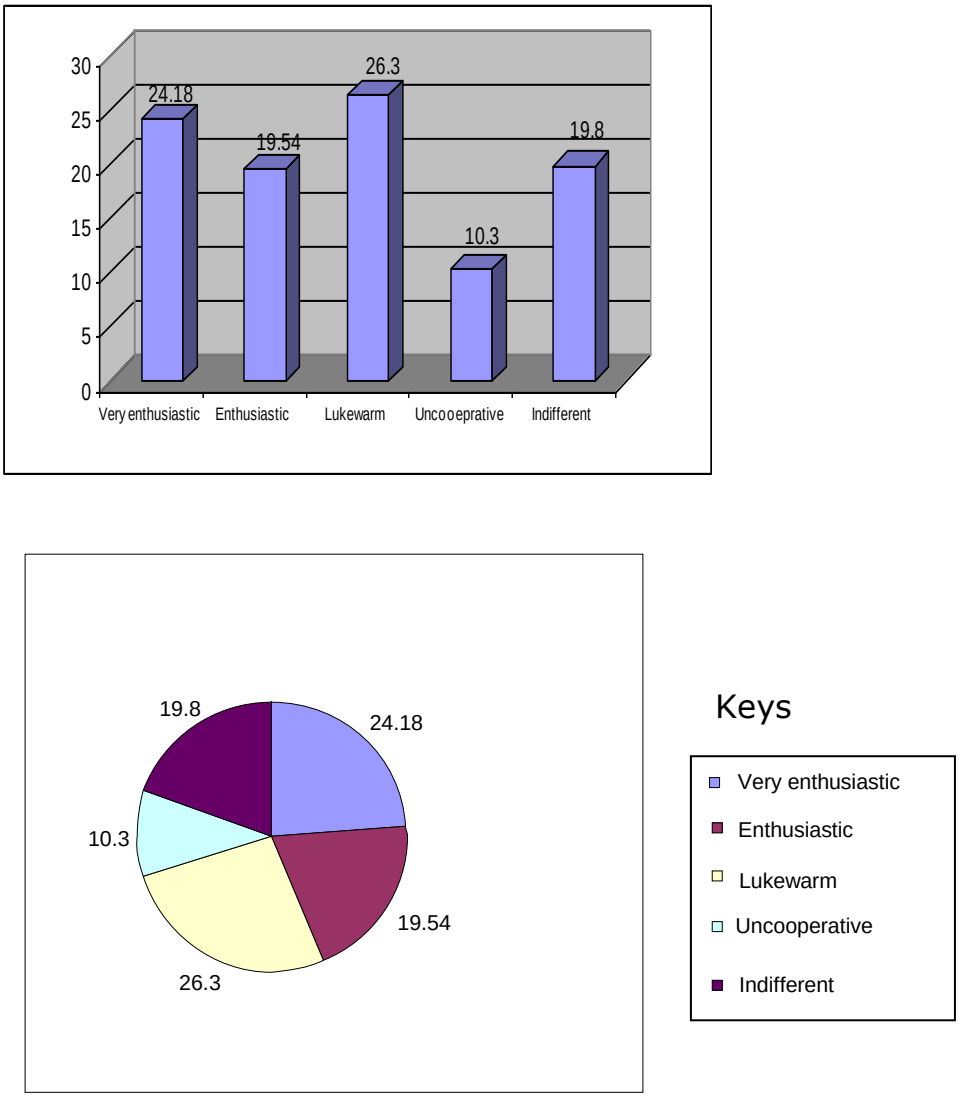


Fig 11: Showing Column and Pie Chart Distribution of Women Respondents According to their Attitude towards Breast health

Table 4.9: Reasons for the Respondents Attitudes Towards Breast Health

Reasons for Attitude	No	%
Financial problems	546	62.47
Feel neglected	279	31.92
Poor health condition	49	5.61
Total	874	100

This table reveals that majority of respondents exhibit negative attitude towards breast health because they are financially handicapped as 546 (62.47 percent) of respondents signified that they lacked the financial ability. Others 279 (31.92 percent) feel neglected and 49 (5.61 percent) have poor health conditions.

Table 4.10: Awareness of Women Respondents on Available Hospital in LGA

Awareness of hospital in LGA	No	%
Aware	764	88.01
Unaware	62	7.14
Unconcerned	42	4.84
Total	**868**	**100**

This table indicates that 764 (88.01 percent) are awareness of hospital in LGA, while 62 (7.14 percent) are unaware. However, only 42 (4.84 percent) feel unconcerned about the availability of hospital in LGA.

Table 4.11: Awareness of Women Respondents about the Presence of Qualified Health Workers in LGA

Awareness of qualified health Workers	No	%
Aware	579	68.52
Unaware	124	14.67
Unconcerned	142	16.8
Total	**845**	**100**

Table 4.11 shows that 579(68.52 percent) respondents are aware of the presence of qualified health workers in LGA, 124 (14.67 percent) are unaware and ironically 142 (16.8 percent) are not concerned about health workers.

Table 4.12: Awareness of Women Respondents on Availability of Free Medical Attention

Awareness of free medical	No	%
Aware	318	37.15
Unaware	452	52.8
Unconcerned	86	10.05
Total	**856**	**100**

On whether respondents have knowledge of free medical services or not, about 452 (52.8 percent) signified unawareness, 86 (10.05 percent) were not concerned and only 318 (37.15 percent were aware of free medical services as at the time of the research.

Table 4.13: Women Respondents' Lifestyle

S/N	Statement	SD	D	A	SA
1	My physical exercises are quite regular	87 9.91	259 29.5	196 22.32	336 38.27
2	I take fruits regularly	14 1.57	298 33.52	124 13.95	453 50.96
3	I take vegetables regularly	202 22.7	74 8.31	211 23.71	403 45.3
4	I take carbohydrates regularly	98 12.42	174 22.05	255 32.32	262 33.21
5	Some lifestyles can have adverse effects on breast health	59 7.18	24 2.91	190 23.11	549 66.79
6	Breast cancer is a life threatening disease	330 38.6	165 19.3	240 28.07	120 14.04
7	All women are prone to breast cancer	241 28.14	250 29.2	210 24.53	155 18
8	Herbs and fauna can cure breast cancer	227 26.55	210 24.56	167 19.53	251 29.4

Table 4.13 shows responses on respondents' lifestyle. On physical exercises, a total of 336 (38.27 percent) "strongly agree" and 196 (22.32 percent) signified "agree" on the issue of physical exercises. However, 87 (9.91 percent) and 259 (29.5 percent) strongly disagree with it. In essence, 532 (60.59 percent) are regular in exercising while 346 (39.41 percent) see no reason why they should exercise.

It is however pertinent to note that majority of respondents are aware of the importance of regular exercises and they indulge in it yet the percentage of respondents who strongly disagree are interesting and a point for consideration (29.5).

On the second item, i.e. regular fruit intake, respondents who indicated that they "strongly agree" and "agree" on regular fruit intake are 453 (50.96 percent) and 124 (13.95 percent) respectively. These two categories give a total of 577 (64.91 percent). On the other hand, respondents who indicate that they "strongly disagree" and "disagree" totaled 312 (35.09 percent) respectively. There is, however, an indication that most respondents for the study i.e about 64.90 percent exhibit a life style of regular fruit intake while about 35.09 percent do not. The third item tested on vegetable intake indicated that 403 (45.3 percent) and 211(23.71 percent) respectively and giving a total of 614 (68.98 percent) indicated "strongly agree" and "agree" that they consume vegetables regularly. On the other hand, about 276 (31.01) in the ratio of 202 (22.7 percent) ticked "strongly disagree" and 74 (8.31 percent) ticked "disagree". This suggests that vegetable consumption is high among respondents for this study.

On carbohydrate intake, 262 (33.21 percent) indicated that they "strongly agree", 255 (32.32 percent) indicated "agree". However, 98 (12.42 percent) strongly disagree with taking carbohydrate. In addition, 174 (22.05 percent) indicated that they "disagree".

Carbohydrate consumption seemed to be highly consumed as indicated by respondents for this study.

On whether or not certain lifestyles have adverse effect on breast health, data collected indicated that 549 (66.71 percent) strongly

agree with the notion that negative lifestyle could have adverse effect on breast health, 190 (23.11 percent) of respondents agree. However, 59 (7.1 percent) and 24 (2.91 percent) strongly disagree and disagree respectively with this notion.

Yet, on whether or not breast cancer is a life threatening disease, 120 (14.04 percent) believe that indeed, it is. 240 (28.07 percent) corroborated this idea as they indicated “agree”. However, 330 (38.6 percent) and 165 (19.3 percent) respectively strongly disagree and disagree. This result shows that about 495 (57.89 percent) which is more than half of the respondents do not believe that breast cancer is life threatening.

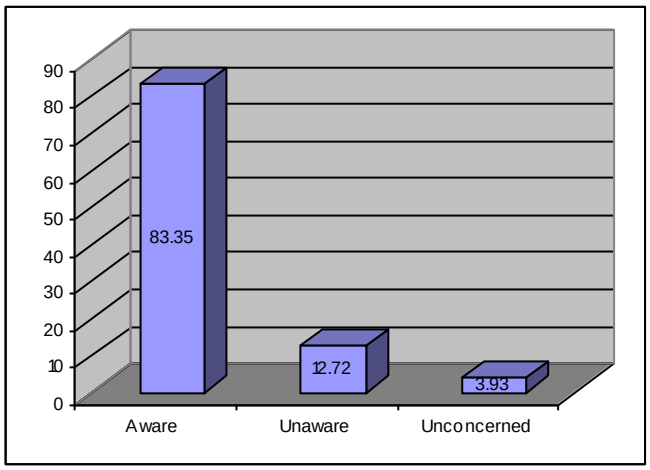
Data collected on whether all women are prone to breast cancer reveals a total of 365 (42.53 percent) indicating agreement i.e. when respondents who indicated “strongly agree” and “agree” are totaled, while 491 (57.34 percent) of respondents who strongly disagree and disagree are summed up.

On whether respondents believe that herbs can cure breast cancer, 418 (48.93 percent) responded positively when seen from the perspective of respondents who strongly agree and disagree. 437 (51.11 percent) responded negatively.

Table 4.14: Women Respondents' Awareness of Breast Cancer

Awareness of breast cancer	No	%
Aware	721	83.35
Unaware	110	12.72
Unconcerned	34	3.93
Total	**865**	**100**

Table 4.14 presents respondent's responses on awareness of breast cancer. A total of 721 (83.35 percent) claimed to be aware while 110 (12.72 percent) are not aware. However, an integral percentage i.e. 3.93 percent, about 34 respondents claimed to be unconcerned about breast cancer.



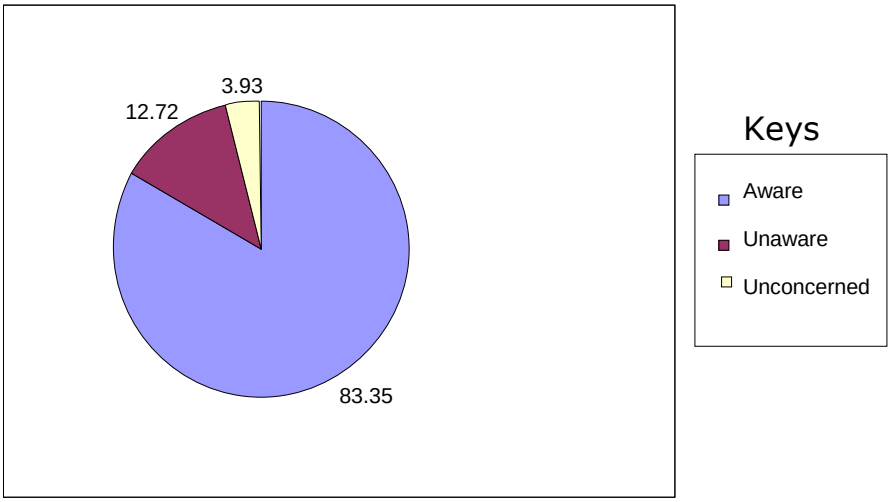
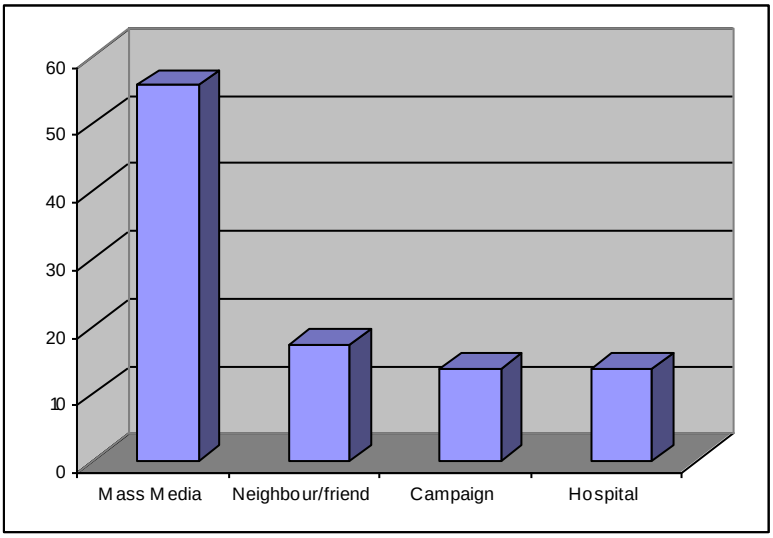


Fig 12: Showing Column and Pie Chart Representation of Women Respondents on Awareness of Breast Cancer

Table 4.15: Women Respondents' Avenue of Information

Avenue of information	No	%
Mass Media	410	56.86
Neighbour/friend	111	15.39
Campaign	100	13.86
Hospital	100	13.86
Total	**721**	**100**

To elicit respondents' responses on how they got information about breast cancer, a majority of about 410 (56.86 percent) responded that it was from the mass media. Respondents who got this information from neighbours were 111 (15.39 percent), 100 (13.86 percent) respondents who signified that they were made aware through the instrumentality of campaigns, and the remaining 100 (13.86 percent) respondents got information from the hospital.



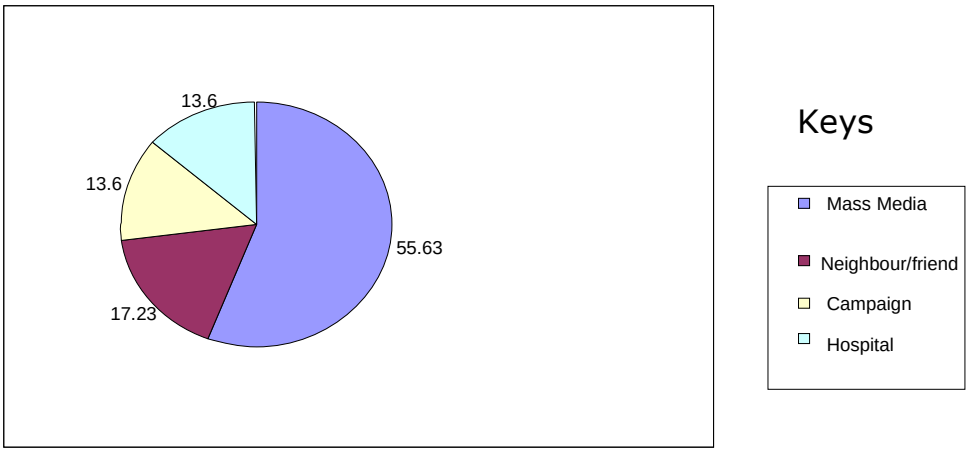
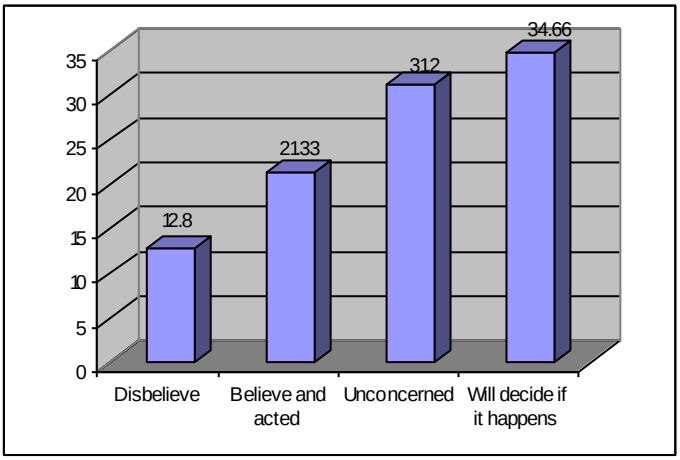


Fig 13: Showing Column and Pie Charts of Women Respondents' Avenue of Information

Table 4.16: Women Respondents' Reaction to Information

Reaction to information	No	%
Disbelieve	96	13.31
Believe and acted	150	20.80
Unconcerned	234	32.45
Will decide if it happens	241	33.45
Total	**721**	**100**

Table 4.16 shows respondents' reaction to the information received on breast cancer. Most of them were not ready to take any step as 241 (33.45 percent) and 234 (32.45 percent) responded that they will decide on what to do it they have it and felt unconcerned respectively. 96 (13.31 percent) disbelieved it. This could be due to their believe system which predispose them to believing that it can not happen to them. However, a minority, 150 (20.80 percent) agreed to do something about the information they received.



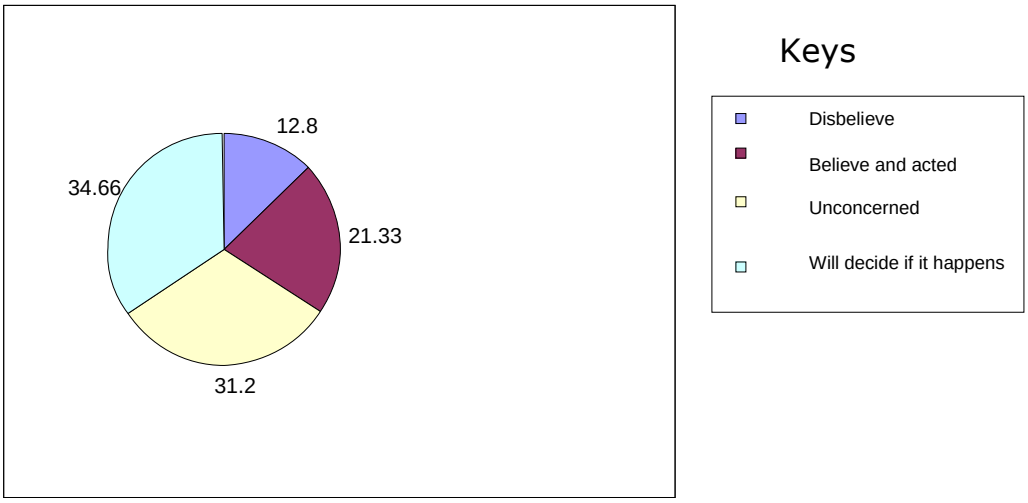
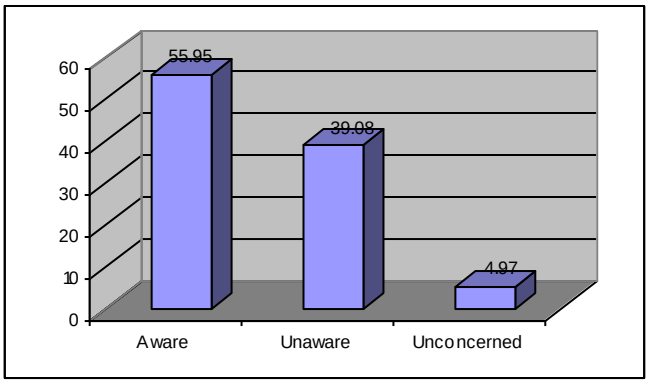


Fig 14: Showing Column and Pie Charts Representation of Women Respondents' Reaction to Information

Table 4.17: Women Respondents' Awareness of Breast Self Examination

Awareness of BSE	N0	%
Aware	484	55.95
Unaware	338	39.08
Unconcerned	43	4.97
Total	**865**	**100**

Still on awareness, this table shows respondents awareness of breast self examination. A total of 484 (55.95percent) indicated awareness of breast self examination, which seems to be the highest. Respondents who signified they were not aware were 338 (39.08 percent) and about only 43 (4.97 percent) indicated lack of concern for breast self examination.



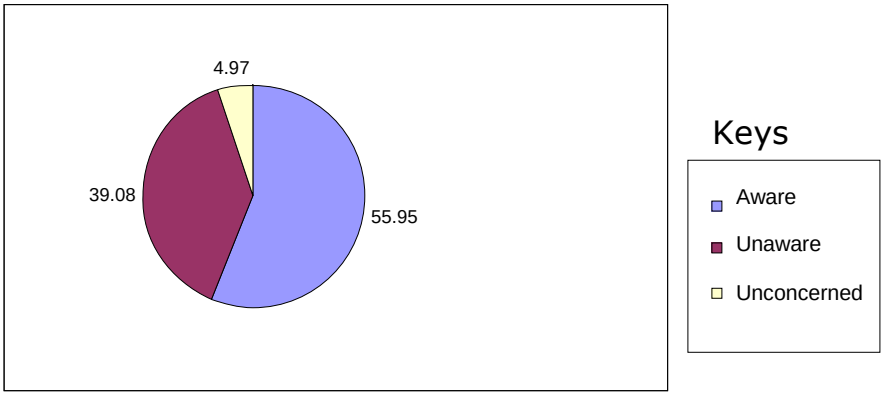
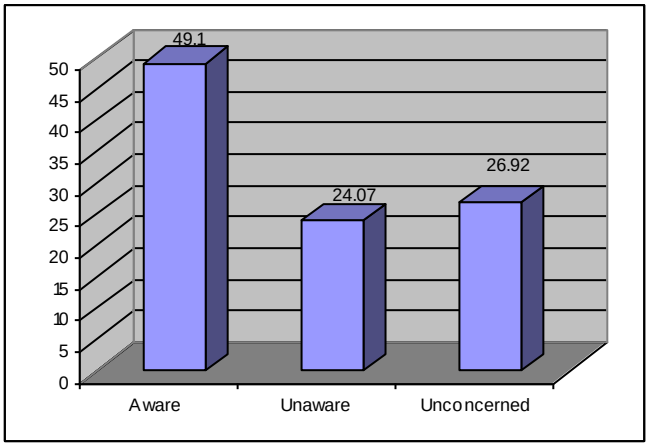


Fig 15: Showing Column and Pie Charts Representation of Women Respondents' Awareness of Breast Self Examination

Table 4.18: Women Respondents' Awareness of Preventive Methods

Awareness of preventive methods	No	%
Aware	383	49.1
Unaware	187	24.07
Unconcerned	210	26.92
Total	**780**	**100**

Table 4.18 reveals responses from respondents on their awareness of preventive methods. A high percentage i.e. 49.1 percent which represents 383 respondents are aware of breast cancer preventive methods. However, 187 (24.07 percent) are not aware while 210 (26.92 percent) do not feel bothered about it. The number of people who are not concerned seems high also and this may account for the high prevalence of the disease.



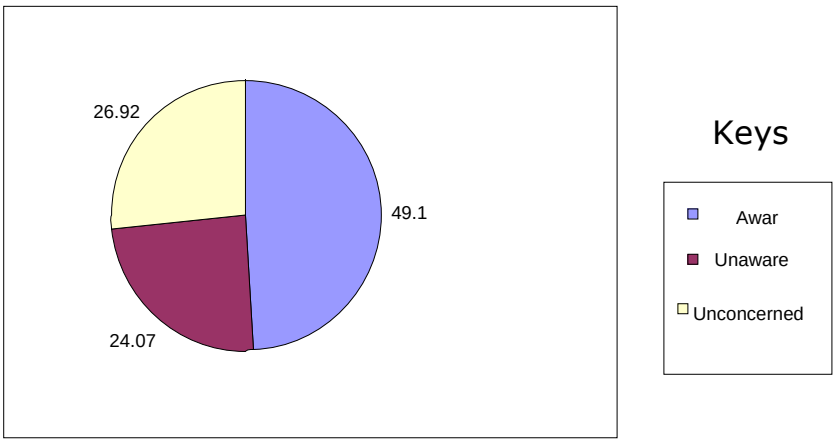
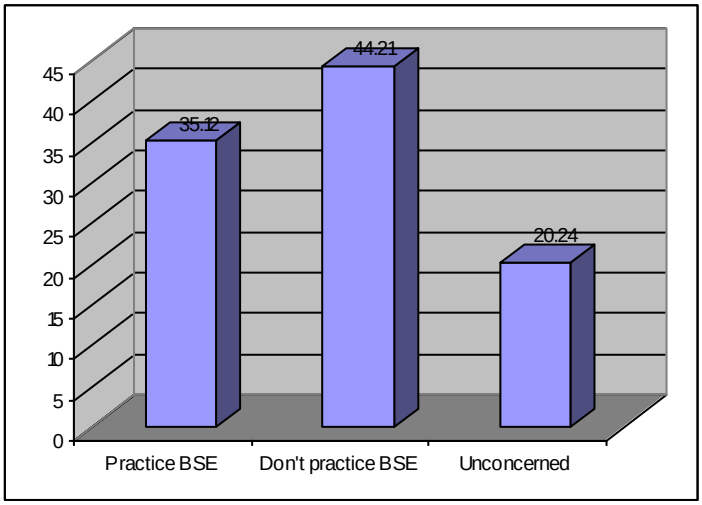


Fig 16: Showing Column and Pie Charts Representation of Women Respondents' Awareness of Preventive Methods

Table 4.19: Women Respondents' Practice of Breast Self Examination

Practice of BSE	No	%
Practice BSE	170	35.12
Don't practice BSE	214	44.21
Unconcerned	98	20.24
Total	**484**	**100**

On the practice of breast self examination, majority o respondents who indicated awareness do not practice it as revealed in this study. 214 (44.21 percent) do not practice it, 98 (20.24 percent) are not concerned. A total of these numbers give us
312 (64.45 percent) However 170 (35.12 percent) indicated that they do take part in the activity.



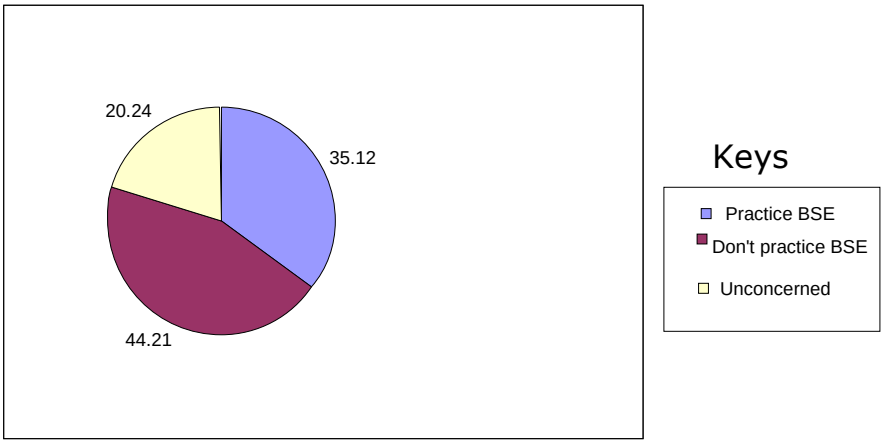
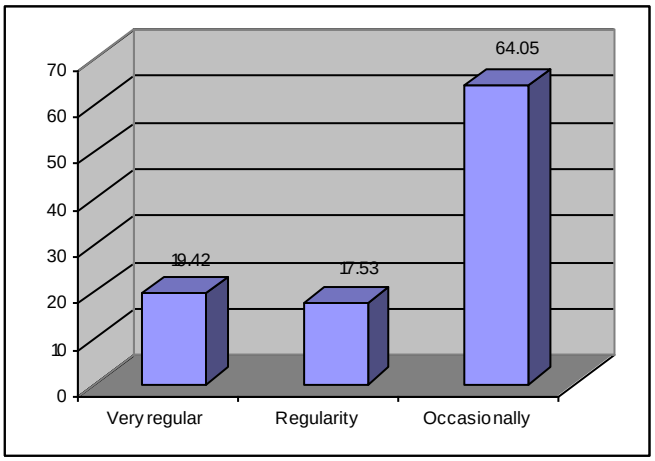


Fig 17: Showing Column and Pie Charts Representation of Women Respondents' Practice of BSE

Table 4.20: Women Respondents' Regularity of Practice of Breast Self Examination

Regularity of practice of BSE	No	%
Very regularly	94	19.42
Regularly	80	17.53
Occasionally	310	64.05
Total	**484**	**100**

On the regularity of the practice of breast self examination, a staggering number i.e. 310 (64.05 percent) out of a total of 484 respondents practice this very important intervention technique occasionally. Only 94 (19.42 percent) do it regularly as expected, and about 80(17.53 percent) are not very regular but they observe it



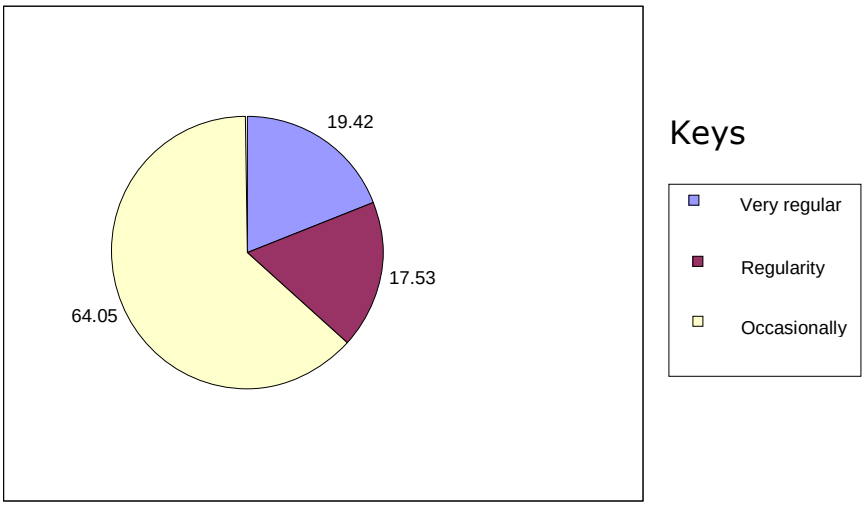


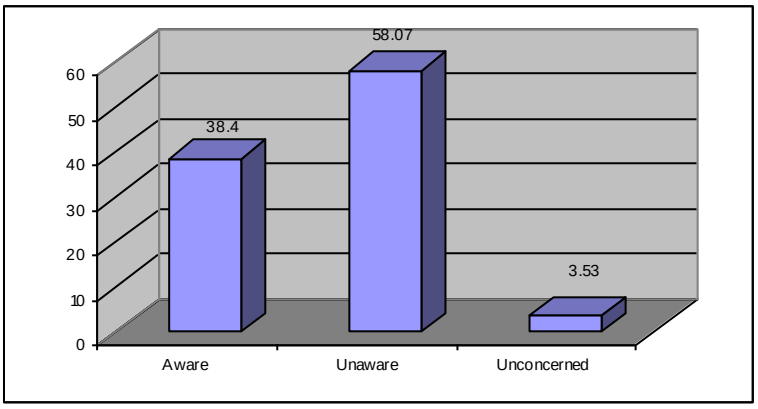
Fig 18: Showing Column and Pie Charts Representation of Women Respondents' Regularity of Practice of Breast Self Examination

Table 4.21: Women Respondents' Awareness of Clinical Breast Examination

Awareness of CBE	No	%
Aware	326	38.4
Unaware	493	58.07
Unconcerned	30	3.53
Total	**849**	**100**

Table 4.21 above shows the data generated from respondents' responses on awareness of clinical breast examination. From the table, it could be seen that most

of the respondents were not aware i.e. 493 (58.07 percent) and 30 (3.53 percent) do not feel concerned and only 326 (38.4 percent) indicated awareness.



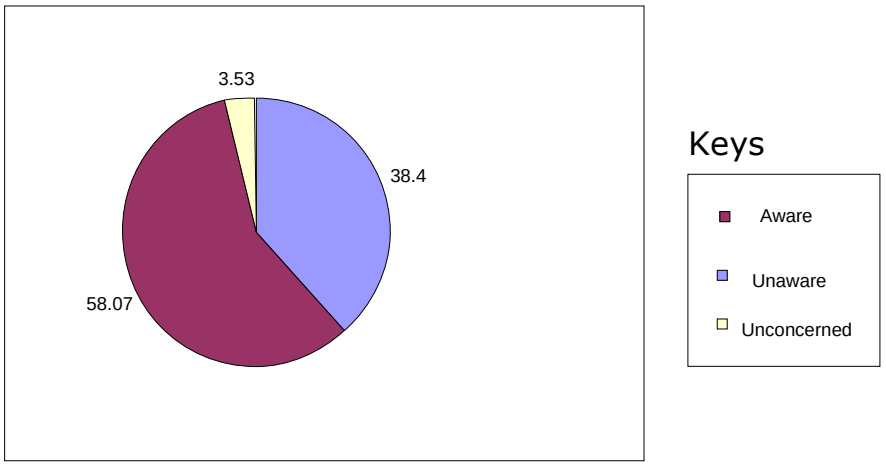
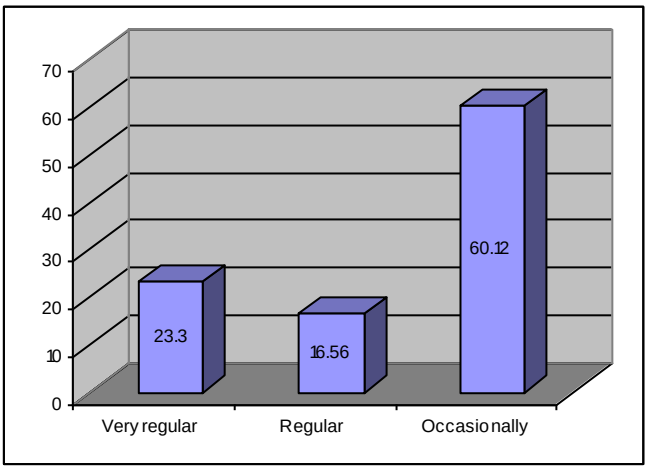


Fig 19: Showing Column and Pie Charts Representation of Women Respondents' Awareness of Clinical Breast Examination

Table 4.22: Women Respondents' Regularity of Practicing Clinical Breast Examination

Regularity of Practice	No	%
Very regular	76	23.31
Regular	54	16.56
Occasionally	196	60.12
Total	**326**	**100**

As in the case of breast self examination, majority of the respondents observe clinical breast examination when they remember and that is occasionally i.e. 196 (60.12 percent) Others practice it regularly i.e. 54 (16.56 percent) and yet the remaining respondents who make up about 76 (23.31 percent) are very regular



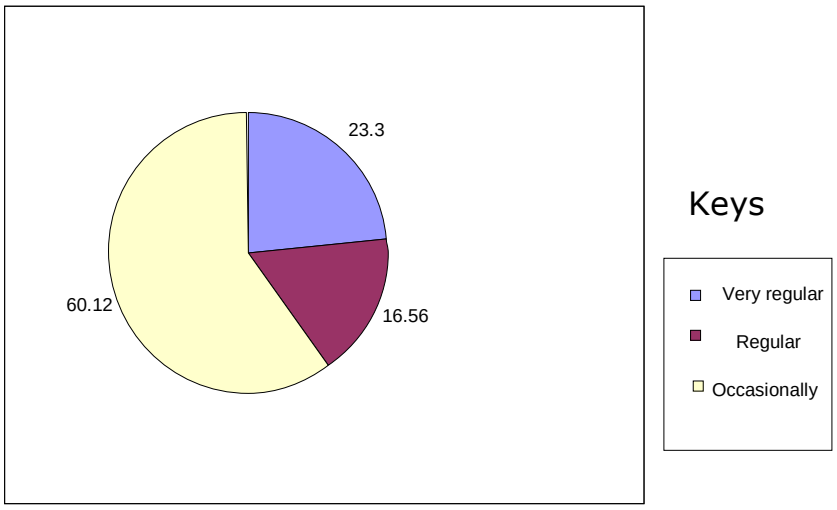
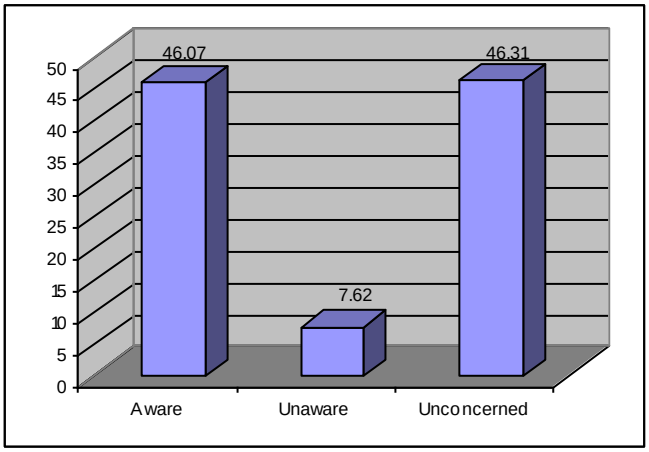


Fig 20: Showing Column and Pie Charts Representation of Women Respondents' Regularity of Practicing Clinical Breast Examination

Table 4.23: Women Respondents' Awareness of Signs and Symptoms

Awareness of signs and symptoms	No	%
Aware	387	46.07
Unaware	64	7.62
Unconcerned	389	46.31
Total	**840**	**100**

The above table, which presents data on the awareness of signs and symptoms of breast cancer indicated that many respondents are careless about the condition. Most respondents i.e. 389 (46.31 percent) feel unconcerned about the condition, 64 (7.62 percent) are unaware and only 387 (46.07 percent) are aware of signs and symptoms of the disease. This shows the attitude of respondents towards breast cancer disease.



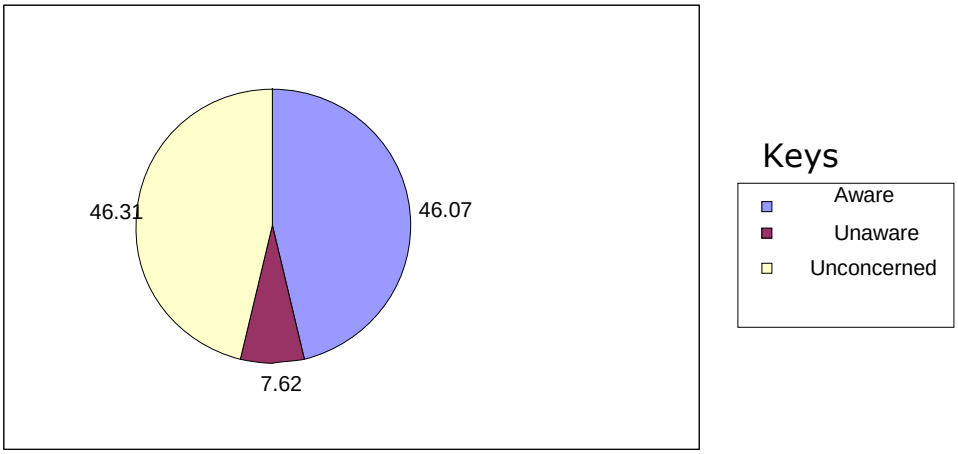


Fig 21: Showing Column and Pie Charts Representation of Women Respondents' Awareness of Signs and Symptoms

Table 4.24: Women Respondents' Willingness to Allow Intervention Techniques

S/N	Statement	QUW	UW	W	QW
1	I am willing to discuss breast cancer awareness and intervention	352 45.48	101 13.05	100 12.91	221 28.6
2	I am willing to allow a male Radiologist to examine my breast for lumps	275 31.91	102 11.82	170 19.7	316 36.62
3	I am willing to undergo surgical removal of the breast if diagnosed of breast cancer	569 69.23	40 4.87	100 12.2	113 13.75
4	I am willing, despite my religious affiliation to participate in breast cancer awareness	258 31.16	105 12.68	210 25.36	255 30.8
5	I am willing, despite my religious affiliation to undergo surgical removal of the breast if diagnosed with breast cancer	538 68.02	44 5.6	100 12.64	109 13.8
6	I am willing to do annual medical check up	346 40.66	130 15.28	160 18.8	215 25.26

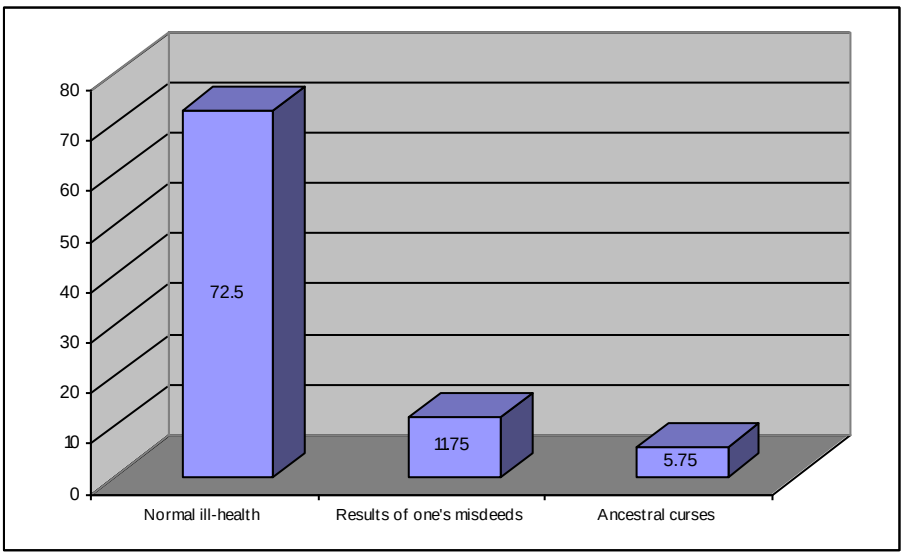
Table 4.24 shows respondents' willingness to allow stated activities. 352 (45.48 percent) indicated that they are quite unwilling to discuss breast cancer awareness and intervention, 101 (13.05 percent) were unwilling. Nevertheless, respondents who indicated willingness when summed up were 321 (41.51 percent). On willingness to allow clinical breast examination by a Radiologist, 316 (36.62 percent) and 170 (19.7 percent) showed willingness while 186 (21.6 percent) and 199 (22.13 percent) showed unwillingness. On willingness to undergo surgical removal of the breast if diagnosed of breast cancer, most

respondents were quite unwilling as 554 (67.40 percent) and 55 (6.7 percent) declined. On the other hand 113 (13.75 percent) and 100 (12.2 percent) are willing to undergo the stated activity. Religion will not hinder most respondents from participating in breast cancer awareness programmes. A total of 465 (56.16 percent) are willing and quite willing while 363 (43.84 percent) were not willing to do such. When the effect of religion on willingness to undergo surgical removal of the breast was tested, the revise was the case. 582 (73.62 percent) respondents indicate quite unwilling and unwilling while 209 (26.44) respondents were quite willing and willing. From data collected and analyzed, it was brought to the fore that only 375 (44.06 percent) were willing to do annual medical check up and the remaining 476 (55.88 percent) will not go for any routine check up. This confirms the notion that many women in Lagos State are too pre-occupied with other socio-economic activities to the detriment o their health.

Table 4.25: Women Respondents' Perception of Breast Cancer

Perception of Breast Cancer	No	%
Works of witches	80	10
Normal ill-health	580	72.5
Result of one's misdeeds	94	11.75
Ancestral curses	46	5.75
Total	**800**	**100**

The table above shows respondents' perception of breast cancer. It is interesting to note that majority of respondents perceives breast cancer as normal ill health in the body. Respondents in this category totaled 580 (72.5 percent) Respondents who perceive breast cancer as works of witches, result of one's misdeeds and ancestral curses totaled 220 (26.50 percent) in the ratio of 80 (10 percent), 94 (11.75 percent) and 46 (5.75 percent) respectively.



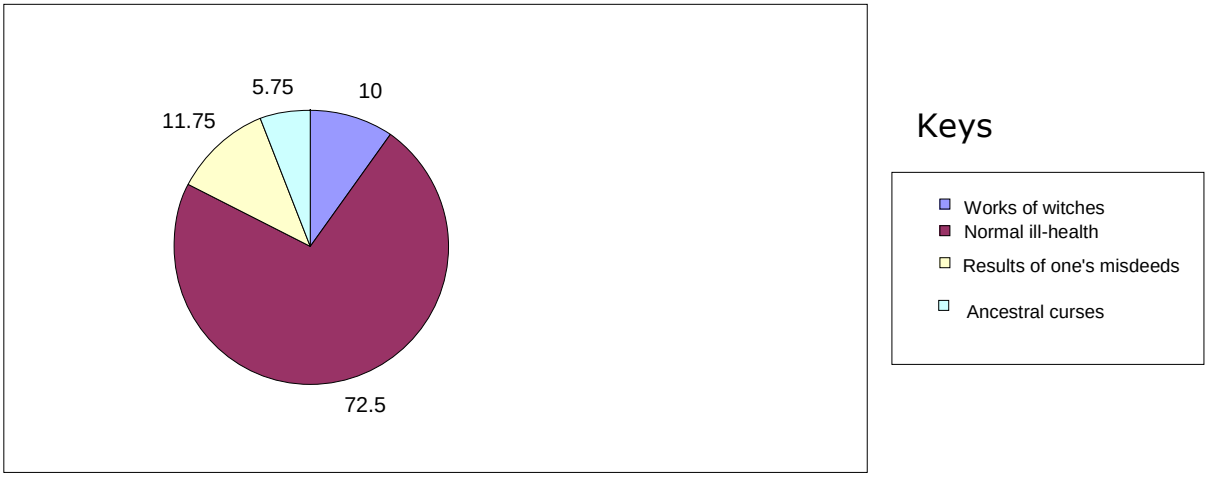
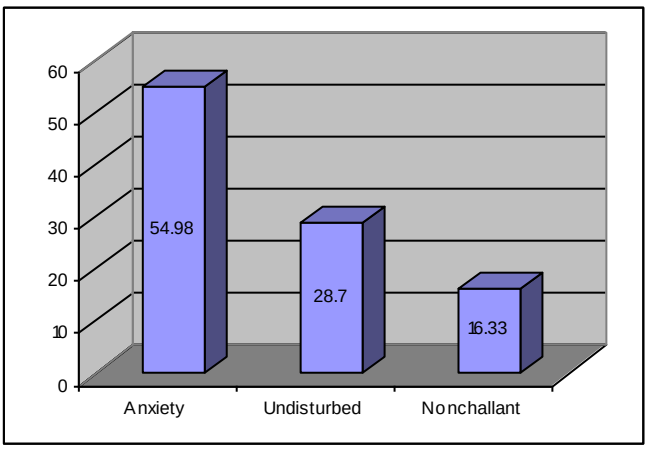


Fig 22: Showing Column and Pie Charts Representation of Women Respondents' Perception of Breast Cancer

Table 4.26: Women Respondents' Expressed Emotions Regarding Breast Health

Expressed Emotions on Breast Health	No	%
Anxiety	458	54.98
Undisturbed	239	28.7
Nonchalant	136	16.33
Total	**833**	**100**

On respondents' expressed emotions on breast health, the above table indicates that most respondents expressed the feeling of anxiety 458 (54.98 percent) in relation to breast health. Interesting enough, a total of 239 (28.7 percent) and 136 (16.33 percent) respectively indicated they were no disturbed and nonchalant about it.



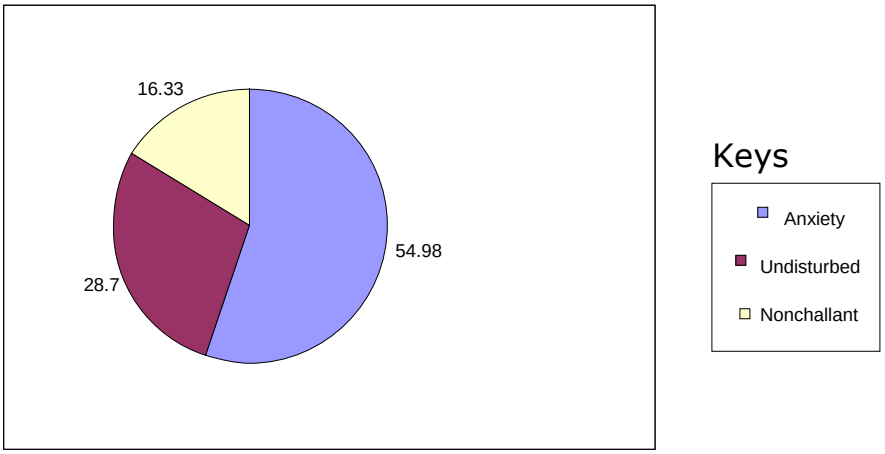


Fig 23: Showing Column and Pie Charts Representation of Women Respondents' Expressed Emotions Regarding Breast Health

Table 4.27: Women Respondents' Choice of Health Care

Choice of health care	No	%
Hospital	807	93.3
Traditional healer	51	5.9
Solicit divine intervention	7	0.81
Total	**865**	**100**

Table 4.27 discusses respondents' choice of health care when it comes to breast cancer treatment. 807 (93.3 percent) preferred going to the hospital for medical care, 51 (5.9 percent) preferred and 7 (8.1 percent) will rather solicit for divine assistance or intervention.

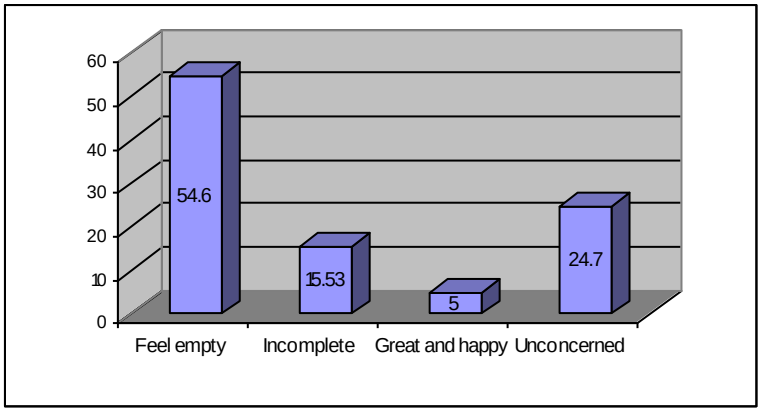
Table 4.28: Women Respondents Expressed Emotions on Mastectomy

Expressed Emotion on Mastectomy	No	%
Feel empty	395	54.8
Incomplete	112	15.53
Great and happy	36	5
Unconcerned	178	24.7
Total	**721**	**100**

Table 4.28 shows respondents' expressed emotions on mastectomy of surgical removal of the breast. Majority of the respondents

expressed the fact that they will feel empty i.e. 395 (54.8 percent) took this stance and 112 (15.53 percent) will feel incomplete. Others are those who feel great and happy and they are 36 (5percent) and unconcerned totaled 178 (24.7 percent)

It could be noticed that lack of concern showed throughout the investigative period and this could have made the problem of breast health a heavy burden on the state



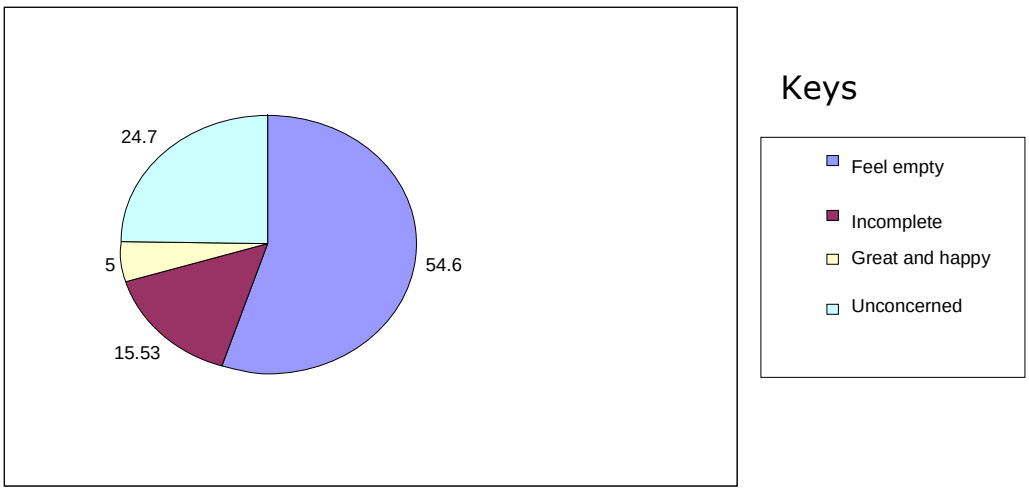


Fig 24: Showing Column and Pie Chart Representation of Women Respondents Expressed Emotions on Mastectomy

4.2 Hypotheses Testing

Hypothesis One

Women's level of education has no significant influence on their willingness to participate and imbibe breast cancer awareness.

This hypothesis determines whether women's education has any significant influence on their willingness to participate in breast cancer awareness programmes. It also implies that a woman's educational qualification will not determine whether she will participate in breast cancer awareness programmes. Findings from the data collated gave the following results:

Table 4.29: Effect of Educational Qualification on Willingness to Participate and imbibe Breast Cancer Awareness

Willingness to participate in breast cancer awareness	Non Literate	Educationa Qualification					Total	χ^2 cal
		Pry Sch Cert	Sec Sch Cert	OND/ NCE	B.A/ HND	Others		
Quite willing	3 (6)	15 (15)	70 (55)	31 (43)	52 (52)	13 (13)	184	32.37
Willing	2 (4)	10 (10)	33 (37)	30 (29)	40 (35)	10 (9)	125	
Quite Unwilling	10 (6)	14 (15)	40 (54)	55 (42)	53 (51)	9 (13)	181	
Unwilling	11 (9)	23 (22)	80 (78)	60 (72)	67(74)	22(19)	263	
Total	26	62	223	176	212	54	753	

Result:

χ^2cal. =32.37, df = 15, χ^2 table =25.0, P <0.05

The test for the significant effect of educational qualification of women on willingness to participate in breast cancer awareness shows χ^2cal value to be significant (32.37>25.0) given a degree of freedom of 15. This implies that level of education of women influences their willingness to discuss breast cancer awareness.

Hypothesis Two

Despite the activities of adult health educators, women's awareness of breast cancer will not significantly affect their practice of BSE and CBE.

The test determines the effect or otherwise of awareness of breast cancer on the practice of both breast self-examination and clinical breast examination. The hypothesis was tested using four tables to enable one have a holistic view.

Table 4.30(a): Impact of awareness of Clinical Breast Examination on the Practice of Breast Self Examination

Practice of Breast Self Examination		**Awareness of Clinical Breast**			Total	χ^2 cal
		Awareness of clinical breast examination	Unaware of clinical breast examination	Unconcerned		
	Practice BSE	224(137.0)	129(208.3)	5(12.7)	358	166.024
	Don't practice BSE	86(172.2)	343(261.8)	21(16.0)	450	
	Will decide later	13(13.8)	19(20.9)	4(1.3)	36	
Total		323	491	30	844	

Result:

χ^2 cal = 166.024, $\chi_{Critical}$ = 9.49, df = 4, P < 0.05

The test for the significant effect of awareness of clinical breast examination on the practice of breast self examination shows chi-square value to be significant (166.024>9.49) with a degree of freedom of 4. Since the $\chi_{Critical}$ is less than the χ^2 cal, it indicates that awareness of clinical breast examination has effect on the practice of breast self-examination.

The second test considers the effect of awareness of signs and symptoms of breast cancer on the practice of BSE. (See below)

Table 4.30(b): Awareness of Signs and Symptoms of Breast Cancer on Practice of Breast Self Examination

Practice of Breast Self Examination		**Awareness of signs and symptoms of**			Total	χ^2 cal
		Aware	Don't care	Unaware		
	Practice breast BSE	259(161.9)	11(27.0)	82(163.1)	352	188.118
	Don't Practice BSE	117(203.3)	47(33.9)	278(204.9)	442	
	Will decided later	8(18.9)	6(3.1)	27(19.0)	41	
Total		384	64	387	835	

Result:

χ^2 cal =188.118,$\chi_{Critical}$ = 9.49, df = 4. P < 0.05

This test shows that Chi-square value is significant (188.118>9.49) given a degree of freedom of 4. Since the $\chi_{Critical}$ is lower than the χ^2

cal, one can conclude that there is a significant effect of awareness of signs and symptoms of breast cancer on the practice of BSE.

A third test, which determines the significance of awareness of BSE on its' practice gives the table below:

Table 4.30(c): Effect of Awareness of Breast Self Examination on its' Practice

Practice of Breast Self Examination		**Awareness of Breast Self Examination**			Total	χ^2 cal
		Aware of Breast Self Examination	Unaware of Breast Self Examination	Not fully Aware of Breast Self Examination		
	Practice BSE	324(203.1)	35(141.6)	4(18.2)	363	289.092
	Don't practice BSE	138(253.5)	281(176.8)	34(22.8)	453	
	Will decide later	17(22.4)	18(15.6)	5(2.0)	40	
Total		479	334	43	856	

Result:χ^2 cal = 289.092, $\chi c_{critical}$ = 9.49, df = 4, P <0.05

This test shows that Chi-square value is significant. The result indicates χ^2 calculated of 289.092, a df of 4 and a $\chi_{Critical}$ of 9.49. Since the χcritical is lower that the χ^2 cal, hence there is a significant effect of awareness of breast self examination on it's practice.

The last test on this hypothesis determines whether or not the awareness about breast cancer significantly influence respondents' practice of BSE (See table below).

Table 4.30(d): Effect of Awareness of breast cancer on practice of Breast Self Examination

Practice of Breast Self Examination		Awareness of breast cancer			Total	
		Aware	Unaware	Not fully aware		
	Practice BSE	354(302.9)	7(45.6)	1(13.5)	362	χ^2 cal
	Don't practice BSE	329(379.9)	98(57.1)	27(16.9)	454	99.612
	Will decide later	35(35.1)	3(5.3)	4(1.6)	42	
Total		718	108	32	858	

Result: χ^2cal = 99.612, df= 4**,** $\chi_{Critical}$ **=**9.49, P <0.05

The result indicates a $\chi_{Critical}$ of 9.49 and χ^2cal of 99.612 and the degree of freedom of 4. With the $\chi_{Critical}$ value lower than the χ^2cal, the hypothesis of non-significance is rejected and hence awareness of breast cancer significantly affects the practice of BSE.

Hypothesis Three

There is no significant difference in the prevalence of female breast cancer disease across all age groups studied.

For this test, a Two-way Analysis of Variance (Anova) was used

Table 4.31(a): Breast Cancer Prevalence Across Different Age Groups and Periods Studied

Source	Sum of Squares	Df	Mean Square	F	Sig.
Age	33,925.409	5	6,785.082	16.310	0.000
Period	68,402.333	10	6,840.233	16.442	0.000
Error	20,800.758	50	416.015		
Total	**265,837.000**	**65**			

The analysis shows two factors – Age and period. Since the P-value for both age and periods (0.000 each) is less than 0.05, the hypothesis of equal prevalence across different age groups and period under study should be rejected. However, the Duncan multiple range tests which determines which period and age-group differ from each other and identifies homogenous subsets of means that are not different from each other shows the result below:

Table 4.31(b): Duncan Multiple Range Test for Age-groups Studied

Age groups				
Age groups	N	**Subsets**		
		1	2	3
0 – 14	11	1.73		
15 – 25	11		41.91	
56 and above	11		45.00	
46 – 55	11		56.09	
26 – 35	11		59.64	59.64
36 – 45	11			74.64

The Duncan multiple range test which also groups variables according to their magnitude indicates 3 groups and the groups are formed according to their similarity in prevalence. Group 0 -14 seems to be the least in prevalence level with 1.73 under subset 1. Age groups 26 -35 and 36 – 45 seem to be highest in terms of prevalence of the disease under subset 3 with 59.64 and 74.64 respectively. Other age-groups constitute the last group and they are under subset 2.

Hypothesis Four

There is no significant difference in the prevalence of female breast cancer disease over period under study in Lagos State (1997 – 2007).

To determine whether there is any significant effect in the prevalence of breast cancer over period under study, a similar grouping (as in hypothesis three) highlights that 2007 has the highest prevalence rate of breast cancer in comparison with other periods for which data was available. 2005, 2002 and 2006 were similar in terms of prevalence while the other periods have equal prevalence level statistically. (See table below).

Table 4.32: Duncan Multiple Range Test for Periods studied

Periods

	N	Subsets		
		1	2	3
1998	6	22.67		
1997	6	25.33		
2000	6	25.33		
2004	6	29.83		
1999	6	30.83		
2001	6	33.17		
2003	6	37.00		
2005	6	48.17	48.17	
2002	6	49.67	49.67	
2006	6		70.50	
2007	6			139.00
Sig.		0.055	0.078	1.000

The Duncan multiple range tests for periods studied reveal three groups formed according to their similarity in prevalence. 1998, 1997, 2000, 2004, 1999, 2001 and 2003 have equal prevalence level statistically and they form the first group, which is subset 1. Group 2 shows 2005, 2002 and 2006 with 48.17, 49.67 and 70.50 respectively to be similar in terms of prevalence and this group constitutes subset 2. Group 3 shows that 2007 had the highest prevalence with 139.00. This last group constitutes subset 3 according to the analysis

Hypothesis Five

Women's Occupations have no Significant Influence on Diagnosis of Breast Cancer

Table 4.33: Showing Test of Proportion

Categories	**Number (Observed – 0)**	**Expected** $e = \frac{1223}{7} = 174.7$	$\frac{(0-e)^2}{E}$
Students	158	174.7143	1.598215
Civil servants	190	174.7143	1.338127
Housewives	223	174.7143	13.3474
Teachers	102	174.7143	30.26011
Medicals	12	174.7143	151.5342
Traders	390	174.7143	265.2955
Others (specify)	148	174.7143	4.083476
	1223	$\chi^2 = \Sigma \frac{(0-e)^2}{E} = 467.4571$	

χ^2 table = χ^2_6 = 12.5916

To test this hypothesis, a test of proportion was used. The occupations used for this study were chosen because they represent the various occupations found in the recorded cases of breast cancer found in hospitals visited. Students were 158, civil servants represented 190 of cases, House-wives, that is those who are not in paid employment represented 223 of cases, Teacher were 102, Those in medical professions were 12, Traders were 390 and others accounted for 148 cases. The tabulation done on the occupation revealed that traders were in the majority. A test of proportion shows calculated Chi-Square of 467.4571 while the tabulated calculation shows 12.5916. This result shows that the prevalence of breast cancer significantly varies from one profession to the other.

Hypothesis Six

In spite of activities of adult health educators, women's fears, anxiety and belief will not significantly affect their involvement in breast cancer intervention techniques.

To test this hypothesis three contingency tables were used. One table classifies the emotions of women by their willingness to participate in discussion of breast cancer intervention techniques, the second table determines whether or not the emotions of women will significantly affect their willingness to discuss and a third shows the effect of perceptions on willingness to participate in breast cancer awareness and intervention.

Table 4.33(a): Effect of Emotion on Willingness to Discuss Breast Cancer Intervention Techniques

Willingness to discuss breast cancer awareness	Expressed Emotions			Total	χ^2 cal
	Anxious	Feel bold and strong	Un concerned		
Quite Willing	102 (98)	56 (51)	20 (29)	178	68.73
Willing	87 (73)	34 (38)	12 (21)	133	
Quite Unwilling	112 (105)	59 (55)	20 (31)	191	
Unwilling	113(137)	66(81)	69(40)	248	
Total	414	215	121	750	

Result: χ^2 cal = 68.73, $\chi_{Critical}$ = 12.59, df = 6, P <0.05

The Chi-square value of the test shows a significant effect over the Critical value (68.73>12.59) with degree of freedom of 6. With the $\chi_{Critical}$ lower than the χ^2 cal, (68.73>12.59) there is a significant effect of emotion of women on their willingness to discuss the breast cancer intervention techniques. Hence, the hypothesis of non-significance is rejected.

Another test, which determines the effect of discussion of breast cancer on respondents' willingness to allow breast cancer intervention techniques show the result below:

Table 4.33(b): Effect of Discussion of Breast Cancer on Willingness to Allow Breast Cancer Intervention Techniques

Willingness to participate in breast cancer intervention techniques	Reaction when discussing breast cancer				Total	χ^2 cal
	Fearful	Anxious	Threat-ened	Non challant		
Quite Willing	80(63)	30(21)	12(17)	53(74)	175	
Willing	52(47)	20(16)	10(13)	49(55)	131	
Quite Unwilling	53(69)	15(23)	25(19)	99(81)	192	86.43
Unwilling	82(89)	24(29)	25(24)	111(101)	242	
Total	267	89	72	312	740	

Result: χ^2 cal = 86.43 $\chi_{Critical}$ = 16.92,df = 9 P <0.05

The test, which gives a χ^2 cal value of 86.43, a $_{Critical}$ value of 16.92 and degree of freedom of 9 shows Chi-square value to be significant (86.43>16.92). Therefore discussion of breast cancer significantly influences willingness of women to undergo breast cancer interventions. A last test on this same hypothesis, determines the effect of surgical removal of the breast on willingness to discuss breast cancer intervention techniques.

Table 4.33(c): Effect of Perception of Surgical Removal of the Breast on Willingness to Discuss Breast Cancer Intervention Techniques

Willingness to discuss breast cancer intervention-techniques	Reaction to surgical removal of the breast				Total	χ^2 cal
	Empty, in-complete	Great and happy	Frustrated	Will decide when it happens		
Quite Willing	101(96)	11(9)	21(29)	44(44)	177	
Willing	50(50)	8(5)	10(17)	36(26)	104	
Quite Unwilling	90(85)	7(8)	28(26)	33(39)	158	33.67
Unwilling	113(117)	6(11)	49(36)	48(53)	216	
Total	354	32	108	161	655	

Result: χ^2 cal = 33.67,$\chi_{Critical}$ = 16.92 df = 9 P<0.05

The above table shows the contingency table that results in the cross classification of effects of perception on willingness to discuss breast cancer intervention. The χ^2 test shows a calculated value of 33.67, a $\chi_{Critical}$ of 16,92 and a degree of freedom of 9.This indicated a high significant influence of perception of mastectomy on willingness to discuss breast cancer intervention i.e. (33.67>16.92)

Hypothesis Seven

Women's Religious Affiliation does not Influence Women's Readiness to present themselves for Clinical Breast Examination and Surgical Removal of the Breast.

The test of the influence of women's religious affiliation on their readiness to present themselves for clinical breast examination to detect lumps gave the following result:

Table 4.34(a): Effect of Religious Affiliation on Willingness to Examine Breast for Lumps

Willingness to allow male Radiologist to examine breast for lumps	Effect of religion on respondents' participation in breast cancer awareness programmes			Total	χ^2 cal
	Religion will allow	Religion will not allow	Don't bother myself		
Quite Willing	250(221)	52(63)	22(40)	324	44.75
Willing	98(96)	30(27)	13(17)	141	
Quite unwilling	107(111)	35(32)	20(20)	162	
Unwilling	110(138)	44(39)	47(25)	201	
Total	565	161	102	828	

Result: χ^2cal. =44.75 $\chi_{Critical}$ = 12.59**;** df = 6, P <0.05

The result reveals that the calculated chi-square is significant (44.75>12.59) with degree of freedom of 6. Hence women's religious affiliation will significantly influence their willingness to allow male Radiologist to examine breast to detect lumps.

Another test determines the significant effect of religion on respondents' willing to allow surgical removal of the breast and the following table emanates. (See below)

Table 4.34(b): Effect of Religious Affiliation on Willingness to Allow Surgical Removal of the Breast

Willingness to allow surgical removal of the breast	Effect of religion on respondents' participation in breast cancer awareness programmes			Total	χ^2 cal
	Religion will allow	Religion will not allow	Don't bother myself		
Quite Willing	100(68)	20(33)	4(23)	124	185.04
Willing	77(52)	8(25)	5(17)	95	
Quite unwilling	30(76)	59(36)	50(26)	139	
Unwilling	312(323)	161(154)	115(108)	588	
Total	519	248	174	946	

Result: df = 6, χ^2cal. = 185.04 $\chi_{Critical}$ = 12.59, P <0.05

The test, which determines the effect of religious affiliation on willingness to allow surgical removal of the breast, shows χ^2calulated to be significant (185.04>12.59) given a degree of freedom of 6. This shows that women's religious affiliation will significantly influence their willingness to allow surgical removal of the breast.

Research Question 6:

What are the psychosocial determinants of breast cancer prevalence, awareness and perception in Lagos State?

Table 4.35: Showing Factor Analysis on Psycho-social Determinants

KMO and Bartlett's Test (a)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.744
Bartlett's Test of Sphericity	Approx. Chi-Square	2179.316
	df	1275
	Sig	.000

a Based on correlations

Communalities

	Raw		Rescaled	
	Initial	**Extraction**	**Initial**	**Extraction**
Local Government Areas	34.687	34.679	1.000	1.000
Age	3.786	3.723	1.000	.983
Marital status	518	.196	1.000	.379
Religion	143	.008	1.000	.053
Educational qualification	1.475	.820	1.000	.556
Ethnic group	.581	.025	1.000	.043
Occupation	1.200	.341	1.000	.284
Length of time in that local Government Area	.461	.039	1.000	.084
How would you describe the attitude of women towards health aware-ness campaign	1.879	1.552	1.000	.826
Reasons for this attitude	1.308	.441	1.000	.337
Do you have discussion forum in your locality?	.526	.046	1.000	.087
Do you have health centers or hospitals in your locality?	233	.010	1.000	.044
If yes, are there qualified doctors and nurses in the health centre?	561	.056	1.000	.100
Are you privileged to have free medical treatment in the centre or hospital on all ailments?	720	.118	1.000	.164

How long does it take you to get to your place of work or business centre?	336	.012	1.000	.037
How much rest/break at work?	1.389	.612	1.000	.440
How often do you do physical exercise?	1.494	.799	1.000	.535
How often do you take fruits?	1.772	1.548	1.000	.874
Do you eat vegetables regularly?	.920	.308	1.000	.335
How often do you take carbohydrate?	1.726	1.671	1.000	.201
Do you believe that some particular lifestyles can have adverse effect on breast health?	.529	.106	1.000	.028
Have you heard about breast cancer?	.237	.069	1.000	.293
If yes, how did you hear?	.468	.016	1.000	.035
How did you react to the information?	1.325	.695	1.000	.524
Are you aware of Breast Self Examination (BSET)?	.343	.115	1.000	.336
Do you believe that breast cancer is a life threatening disease?	.261	.060	1.000	.231

Do you believe that most women are prone to having breast cancer in their life time?	.716	.157	1.000	.220
Do you practice Breast Self Examination (BSE)?	.324	.091	1.000	.281
If yes, how often do you do it?	.652	.037	1.000	.057
Are you aware of clinical breast examination (screening)?	.287	.082	1.000	.286
Are you aware of signs and symptoms of breast cancer?	.880	.370	1.000	.420
Do you enjoy discussing breast cancer awareness and intervention?	.509	.113	1.000	.222
Which of the following programmes will you willingly participate in?	2.087	1.967	1.000	.942
How do you perceive some health threatening disease (especially breast cancer)?	.901	.027	1.000	.030
How do you perceive breast health?	.532	.051	1.000	.096
Where do you prefer women to seek help when some strange feelings develop in their breast?	.084	.003	1.000	.041
Can you allow a male oncologist to examine your breast for possible lumps?	.442	.073	1.000	.166

Do you believe that herbs and fauna given by a trado medical or preventive medicine-man can cure breast cancer?	.651	.113	1.000	.174
If yes, do you see a need to visit the oncologist for examination and possible treatment in addition to (49) above?	.426	.064	1.000	.151
When discussing breast cancer, how do you react?	1.682	1.350	1.000	.803
If diagnosed of breast cancer will you allow your breast to be surgically removed to save your life?	.695	.127	1.000	.183
If your breast is removed, how would you feel?	1.374	.755	1.000	.549
Suppose you just knew of breast cancer from this medium, what will be your next action?	.162	.012	1.000	.073
Have you ever discussed breast health with your relations?	280	.051	1.000	.180
As a Christian or Muslim, will you want to participate in breast cancer awareness?	.472	.087	1.000	.185
Do you devote time for annual medical examination?	.299	.052	1.000	.176

Emanating from the table above is the result of the test on the research question that sought to find out the determinants of breast cancer prevalence, awareness and perception in Lagos State.

The collected data were subjected to Factor Analysis to see whether they could be factorized. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy Test (KMO) was 0.741. The communalities presented an interesting picture with Residence (i.e. Local Government Area) showing the highest communality (1.000). This is followed by Age (0.983), Consumption of Carbohydrates (0.969), Participation in Breast Cancer Awareness Campaigns (0.942), Consumption of fruits (0.874), Attitude of women to health awareness campaigns (0.826), Feeling of women at the discussion of breast cancer (0.803), Reaction of women to information (0.524), Physical Exercise (0.535), How a woman would feel if her breast is removed (0.549) and so on. According to Field (2005), communality is the proportion of a variable that is common variance. Therefore, Residence here shares its variance with all the other 47 variables in the data set while a communality of 0.942 for participation in breast awareness campaigns show the importance of this variable in relation to it's effect on other variables. The communalities of all the other variables as aforementioned could be seen from this perspective.

The Factor Analysis reduced the initial forty-seven variables into nine principal components. It is also worthy of note that the total variance explained (TVE) by these nine component is 72.64 percent. The TVE

Component 1 is about 47.26 percent, which is an indication of its importance to the study.

The Rotated Component Matrix (RMC) shows the nine components that are:

X_1: Awareness about breast cancer campaign and practices of the preventive intervention techniques by women.

This principal component is made up of 21 variables such as: Awareness of the signs and symptoms of breast cancer, Awareness of Breast Self Examination (BSE), Reaction to information on BSE, Awareness of Critical Breast Examination (Screening), Practice of BSE, Has the individual heard about Breast Cancer, Whether the respondent believe that women are generally prone to breast cancer, Whether the respondent believe that Breast Cancer is life threatening, Attitude of respondent to discussion on Breast Cancer, Does the respondent find time for medical examination?, whether the respondent will allow her breast to be removed and so on.

X_2 Attitude to oncologist.

This component includes: Whether respondent will visit oncologist for breast examination, whether she would allow a male Oncologist to examine her breast, and so on.

X_3 Demographic Characteristics of the respondent.

This includes: Age of respondent, Occupation of Respondent, Marital status and so on.

X_4 Attitude to health awareness campaign.

This includes: Attitude of women towards health awareness campaign, Reason for such attitude, Availability of discussion forum in the respondents locality and so on

X_5 Psychological reactions to breast cancer.

This includes: Feeling of the respondent when discussing Breast Cancer, What the reaction of the respondent would be if her breast is removed, Feeling of respondent about breast health and so on.

X_6 Lifestyle

This includes: Consumption of vegetables, consumption of fruits and so on.

$X_{7:}$ Residential location of the respondent within the State.

This includes: Respondents Local Government Area.

$X_{8:}$ Frequency of participation in health awareness campaign

This includes: The programme the respondent will willingly participate in and How often will the respondent participate in the state activity.

$X_{9:}$ Ethnic Group of the respondent

This is composed of two variables, namely, ethnic group and consumption of carbohydrates

Therefore, these nine principal components derived from forty-seven other variables could be assumed to be the psychosocial factors inhibiting the acceptance of information about breast cancer amongst women in Lagos State, Nigeria.

4.3 Discussion of Findings

Findings on Awareness of Breast Cancer

The study sought to find out women's awareness of breast cancer by looking at various areas where awareness was expected. The areas covered in this study therefore included awareness of health centers or hospitals, awareness of qualified health workers in the health centers and awareness of free medical services. Other areas included awareness of breast cancer itself, awareness of breast self examination, clinical breast examination, other preventive methods of breast cancer and signs and symptoms of the disease.

The researcher wanted to determine whether respondents are health conscious and so visit hospitals for health challenges hence the awareness of a health center. Data generated showed that 764 (88.01 percent) are aware while an inconsequential portion claimed not to be aware or unconcerned. On whether or not respondents are aware of qualified health workers in the centers, majority also signaled awareness i.e. 579 (68.52 percent) and the remaining are either unaware or unconcerned. Most respondents, however, are not aware or do not benefit from free medical care. Results emanating from data gathered indicated that about 452 (52.8 percent) are unaware while 318 (37.15 percent) are aware. This could mean that most of our hospitals and health centers do not give free medical services and this singular action could inflate the spate of breast cancer diagnosis and mortality as a result of poor financial

capabilities of respondents in Lagos State. On awareness of breast cancer, 712 (83.35 percent) claimed to be aware, 110 (12.72 percent) were unaware and 34 (3.93 percent) indicated that they were not concerned. Awareness of the disease seem to be high considering the high percentage of respondents who have been made aware of it. The next consideration was to determine if respondents are aware of breast self examination and the data that result that emanated from the data analysis showed that 484 (55.95 percent) were aware of the technique, 338 (39.08 percent) were unaware and only 43 (4.97 percent) felt unconcerned. This finding still confirmed the initial finding that awareness seemed to be high. Respondents who are aware of breast cancer prevention methods were 383 (49.1 percent), 187 (24.07 percent) are unaware and 210 (26.92 percent) felt unaffected by it. In the same vein, the awareness of clinical breast examination showed awareness of the technique to be lower as 266 (38.4 percent) while 493 (58.07 percent) documented they were not aware of the technique. From excepts from the interview conducted with the medical health care providers, it was generally agreed that women seem not to be adequately aware of the importance of CBE and BSE. The few that seemed to be aware did not show interest and were reluctant to allow CBE by male Radiologists until they were counseled on the importance of the intervention technique. On awareness of visible signs and symptoms of breast cancer, the number that felt unconcerned are interestingly higher than any other category. A total of 389 (46.31 percent) was

recorded. Respondents who were aware totaled 387 (46.07 percent) while only 64 (7.62 percent) are unaware.

Contrary to the findings of Olopade (2004), Oluwatosin and Oladepo (2006) Adesunkanmi, Lawal, Adesola and Durosinmi (2006) and Orija (2007) this study found awareness of breast cancer to be higher in Lagos State. Okobia, et al (2005) documented that knowledge of BSE was low, they wrote that women with higher educational level and those in professional jobs had higher knowledge about breast cancer and were three times more likely to practice BSE. On knowledge of preventive methods, Yecel, et al (2004) posited in their study, that knowledge about breast cancer and its screening practices were lacking. However, in line with this research finding, this study revealed that awareness of and willingness to undergo clinical breast examination was lacking. Most women, for reasons best known to them are not even willing to know the signs and symptoms of the disease. The disparity in the findings of this study vis-à-vis the initial researchers could be due to time lapse between the studies, effect of awareness creation that has began in earnest and other demographic and socio-cultural factors peculiar to different communities. These initial research works carried out by researchers and used to benchmark this study were carried out in different communities. The awareness of health centers do not guarantee respondents' easy access as free medical care was wanting. This may hinder regular visits to the centers thereby affecting awareness of the disease.

Findings on the Effect of Women's level of Education on Willingness to Discuss Breast Cancer Awareness Programmes

The research hypothesis sought to establish whether educational qualification had influence over women's acceptance of breast cancer educational programmes. The analysis of the data established the fact that women's educational level significantly influences women's willingness to participate in breast cancer awareness programmes.

Statistics available for the analysis and result of the hypothesis indicated that respondents with secondary school certificate, Ordinary national diploma and national certificate in education and those possessing first degree were highly represented while non-literate and primary school leaving certificate holders were few.

Furthermore, the effect of education on recipients of any health programme was brought to the fore by research undertaken by The World Health Organization (1988) in a study in rural Nigeria between 1973 and 1974. Studies were conducted on two populations of similar socio-economic levels. However, one of them had the provision of a hospital while the other did not. The provision in one hospital reduced mortality rate drastically while in isolated centers where there were no hospitals, there was a substantial difference in mortality according to whether the mother had been to school or not.

Initial research findings by WHO corroborated the result of this research work that education has a lot to do with imbibing or

participating in any health programme and in breast cancer education in particular.

Tellez, Toledo, Espitia, Guzman-Patraca, Hernandez, Perez-Romero and Delgado (2009) noticed that despite the notion that rural and indigenous women were generally considered to be at lower risk of breast cancer than women living in urban environments there was a rising incidence rate among Southern Mexico. To improve preventive programs in that population, the study to evaluate socio-economic factors associated with breast cancer early detection and women's knowledge was carried out. The result was that the highest educational level was nine years i.e about 408 (49 percent) spent only nine years in school. The study concluded that rural and indigenous women have a poor knowledge about breast cancer because of their low level education among others.

In line with their thought, Vasedeva (2006) believes that acquiring knowledge helps in effecting change through information, which ignites awareness and modifies behaviours and attitudes. Bryllye & Bashir (2003) and Avery (2004) after their independent studies on local women discovered that traditional or rural women, who probably have no formal education or education channeled through informal adult education are, most of the time subjected to what they called "conspiracy of silence" The ultimate resultant effect is that women are seldom seen to gather to speak about their pains, emotional and physical conditions but the little education a woman

has makes the difference in her ability to take actions that will permanently change the course of her life and that of the family.

Still corroborating the result of this study, Okobia et al (2005) in their study discovered that willingness to participate in breast cancer was hinged on the level of education of women. The implication of this finding for policy planners is that adult informal education is very essential because it builds confidence and courage in women and particularly young girls and this enable them take decisions that affect their lives as it concern all aspect of health. (Attah 2002, Seele 2002 and Leshner et al 2006)

Attending to women's health is a global issue and concern according to Osisanya (1999) Blair (2006) yet enlightenment through adult informal education is the key. This enlightenment should not be made optional but a necessity.

Findings on Women's Awareness of Breast Self Examination, Clinical Breast Examination, Signs and Symptoms and its influence on the Practice of Breast Self Examination and Clinical Breast Examination

The hypothesis adopted sought to determine whether women's awareness of breast self examination, clinical breast examination and signs and symptoms of breast cancer had impact or influence on the practice of breast self examination and clinical breast examination despite activities of adult health educators. The data gathered from

women respondents and interview schedule were adopted for this aspect of the study.

The data analyzed indicated that awareness of breast self examination and clinical breast examination, signs and symbols of breast cancer has a high significant impact on the practice of the stated activities (BSE and CBE) In similar fashion, the interviews conducted both with Non-government and government organizations and medical care givers indicated that the lack of awareness of these techniques and the signs and symptoms of breast cancer has impact on their practices and since women seemed not to be adequately aware of these, they are not likely to engage in the practices. These findings are consistent with the research findings documented by Oluwatosin and Oladepo (2006), Ikpah (2004) Yecel et al (2004), Adesunkanmi, Lawal, Adesola and DUrosinmi (2006), Onajole, et al (2006) Oluwatosin and Oladepo (2006) Okobia (2006), Orija (2007) and Mexico, Wall et al (2008) Awareness of breast cancer and the consequences of lack of attention to it may lead to catastrophe so women should be made aware of these facts and taught how to do BSE and be counseled to go for CBE and annual Mammography. In this wise, they avoid the attendant problems associated with breast cancer. Awareness is synonymous with enlightenment and possession of knowledge. It is an initial step towards been conscious of one's condition that hitherto had been unknown. Awareness removes biases, shame, fears, stigma and all forms of psychological and societal labeling of certain diseases such as breast cancer.

Awareness is therefore paramount in early detection, prevention and practice of preventive measures such as BSE and CBE.

Findings on the Prevalence of Breast Cancer in Relation to Women's Occupation in Lagos State

The study hypothesized that women's occupations have no significant influence on been diagnosed of breast cancer. The results that emanated from the analysis of data revealed that diagnosis of breast cancer varies from one profession to the other significantly. However, housewives had the highest diagnosis of breast cancer. This finding is buttressed by the research submissions of Calle, Murphy, Rodriguez, Thun and Heath (1998) who researched and wrote on "Occupation and Breast Cancer Mortality in a Prospective Cohort of US Women" They found out that housewives had high risk of breast cancer. They however noted that executives too had high risk while clerks and administrative staff had low risk of the disease.

Interestingly, another study conducted by researchers from the American Cancer Society (1998) indicated there were no links found between occupation and breast cancer. They however, agreed that in comparison with housewives, women in administrative support, including clerical occupations were at a small increased risk which indicated that housewives have higher risk of the disease than others. However, documented cases rose dramatically between 2004 and 2007. This confirms to the researcher that breast cancer documented cases are on the increase in Lagos State.

This is in agreement with the findings of Olopade (2004), Durosinmi (2004), Cancer Research (2005), WHO Global Cancer Rates (2006), Kirtland (2006) and Lambo (2007) that breast cancer is on the increase. The medical care givers also confirm the fact that there has been an increase in the cases of breast cancer patients attended to in the hospitals. The findings deduced from this study corroborated by former research findings confirm that there is a high level increase in breast cancer pandemic. The rise in incidences can be noticed despite the activities of health adult educators, government and non-government organizations. It showed also that little impact have been made on the populace. Shedding light on the possible reason for prevalence of the disease, Eileen, Crimmins and Saito, (2000), Noor (2001), Ikpah (2002), Coe (2003), Olopade (2004), Ferley (2005), Abdul (2007) and Ogundipe and Obinna (2008) variously remarked that gender among other factors, are responsible for prevalence of the disease.

The findings of this research have very serious implication for women. Lifestyle issues are paramount in the diagnosis of breast cancer. Most women in Lagos State do not live lives within the confines of healthy living. That is most of them live carelessly, eat too much carbohydrate, undergo too much stressful activities and housewives and business women live passive sedentary life-styles known to be causative factors. On the part of the awareness givers, it is instructive that the quality of information awareness creators

disseminate to the populace and the manner of disseminating such information also count. No woman will blindly submit herself to early death, only ignorance can predispose them to such. It therefore indicates that early prevention and detection remains the only option for women - a gap which adult health educators through awareness creation can fill.

Findings on the Age with the Highest Prevalence

Hypothesis three was used for this aspect of the study and it posited that there is no significant difference in the prevalence of female breast Cancer disease across all age groups studied. A two-way Analysis of variance test was done to determine this stand. Findings were further subjected to Duncan Multiple Range test that groups variables according to their magnitude. Age-groups 26-35 and 36 – 45 seemed to be the highest in terms of prevalence. In addition, it was discovered that there is a significant difference on the prevalence of breast cancer across the ages studied. With a post-hoc test of significance conducted in addition to Two-Anova test, the researcher sought to determine this condition. It was shown glaringly, that age group 0-14 was significantly different from all other age groups in terms of prevalence level with 19 (0.60%) prevalence while age group 36-45 had the highest prevalence with 821 (26.80%) closely followed by age group 26-35 with 656 (21.40%). According to this finding therefore, the age with the highest prevalence is ages 36-45 and 26-35. These findings are in

consonance with the earlier findings of Anyanwu (2008) whose study showed peak age of occurrence of breast cancer as 30-39 and 40-49 with 10 percent of patients aged less that 30 years and more than 70 years. Adebamowo and Ajayi (2000) on the other hand, gave 42.5 years as the highest incidence age and believed that 12 percent of cases occurred before 30 years and menopausal women account for 20 percent of cases. Similar to this is the findings of Oluwatosin and Oladepo (2006) and Okobia (2006) who gave occurrence age as 43-50 years. A critical analysis of these findings revealed clearly that though there were a little bit of divergent opinions on the ages documented, the researcher and Anyanwu (2008) have similar findings and Adebamowo and Ajayi (2000) and Oluwatosin and Oladepo (2006) also had similar findings. The little divergence in findings could be due to the period the studies were undertaken and environmental and geographical factors. However, the findings seemed to agree that increasing age is a major cause of breast cancer diagnosis. Commenting on the relationship between age and breast cancer diagnosis, Eileen, Crimmins, and Saito (2000), Oncologist, (2001), Olopade (2004) and Congdon (2004) agree that breast cancer diagnosis increases with increasing age. The ages discovered to have high prevalence are those identified as very critical in a woman's life. It is the age-group of motherhood, caring for the family and high responsibility. It is also the age bracket when a lot of stressful activities confront a women and she tries to manage her life, home, children and work. Combining these responsibilities is

not as easy as it looks. When these tasks are coupled with careless and unhealthy lifestyles whether imported or local, it becomes a risk factor. Pathetic as the case may be, cases of breast cancer were found even among young girls of less than 16 years. Durosinmi (2004) recorded a case of a 16 year old having breast cancer but surprisingly this researcher was able to come across a case of 12 year girl who had cancerous breast lumps. Though she was subjected to surgery, survived it and is still alive as at the time of the study yet the fact remains that contrary to former findings, this study has determined that young girls can also be diagnosed and so this is instructive for adult educators working in breast cancer centers and programme planners.

Findings on Prevalence of Breast Cancer Disease Across Periods under Study

The hypothesis used to determine the position states thus "There is no significant difference in the prevalence of female breast cancer over periods studied in Lagos State". This study discovered from analysis of data available for test purposes that prevalence of breast cancer significantly differed over periods studied. The Duncan range tests for periods revealed three groups formed according to their similarities in prevalence. Group three emerged with the highest prevalence of breast cancer and the year indicated was 2007.

The researcher could not find adequate literature to support this finding. However, it is expected that since women are learning of the presence of less sever diseases at an early stage because of the growing ability to diagnose non-invasively, rate of breast cancer disease should have also been reduced. This finding is instructive to all in particular to awareness creators, government and non governmental organizations and all civil societies interested in stemming the spread of Breast cancer since breast cancer disease has not been pinned down to any one cause but rather to several causal factors. Also judging from the profile of the disease, it seemed very early detection and early diagnosis remains the only solution. It is also worthy of note that selected government and non government bodies involved in awareness creation in the state have saddled themselves with the responsibility of carrying the message of enlightenment about breast cancer to all nooks and corner. It is therefore expected that prevalence of breast cancer may likely decrease due to such actions.

Findings on Women's Perceptions about Breast Cancer in Lagos State

Data collected and analyzed revealed that breast cancer was perceived as normal ill-health in the body. This conclusion was drawn from the result of data analyzed because 580 (72.5 percent) perceived the disease as such. Very few respondents read meanings to the diagnosis of the disease. Their perception of breast cancer

naturally influenced their choice of health center in the instance of diagnosis of the disease. It was noted that a total of 807 (93.3 percent) of respondents preferred the medical way to treatment of breast cancer as they indicated going to the hospital was the best option. Very few preferred the traditional healer since it was not perceived to be a result of curse or misdeeds. This research finding contradicted the initial findings of Okobia et al (2006) who posited that their study revealed their respondents perception of breast cancer diseases as works of evil spirits and induced from the spirit world. The difference in result could be because of the different locations for the study, socio-cultural differences and demographic reasons. The study conducted by Okobia and his colleagues was in Calabar, Cross Rivers State while this study was conducted in Lagos State. Their study was supported by Leshner (2006) which was undertaken in South-Eastern states of Nigeria where people accredit witchcraft, supernatural forces, fate and reincarnation as causes of breast cancer. This perception, according to their study, disallowed the women from attending hospitals. Here, in Lagos State, women would rather visit the hospital than see a traditional healer. Cultural influences and believes could be causal factors for these perceptions that do not seem to be prevalent in Lagos State, the location for this very study. Wrong perception of diseases could subjugate women to unnecessary silence and ultimately death.

Findings on Women's Emotions to Breast Cancer and its Intervention Techniques

The study hypothesized that woman's fears, anxiety and beliefs do not affect their involvement in breast cancer intervention techniques. For this hypothesis, three contingency tables were used. One of the tables considered the emotion of women vis-à-vis their willingness to discuss breast cancer intervention techniques, the second table was used to determine women's reaction as it affected their participation and the third table revealed the reactions of women to surgical removal of the breast. Findings showed that there was a significant effect of perceived emotions of women on their willingness to discuss breast cancer, participate in breast cancer intervention techniques and there was a high influence of perception of mastectomy on willingness to discuss breast cancer intervention. The results obtained from the analysis of the data confirm McFaul and O'Donnell's (1998) views of risk perception as a function of variability. Levanthal (1999), Lipkus, (2001) and Oluwatosin and Oladepo (2006) all agree that perception of women ultimately influence their knowledge of their actual risk and this invariably inform their ability to have enhanced quality of life even among those who experience heightened level of stress and anxiety.

Having discovered that woman's perception influences their disposition to all intervention techniques associated with preventing breast cancer, it implies that awareness creators should focus on

modalities that could remove bias and open up discussions much more than ever before with women.

Findings of Women's Attitude to Breast Cancer

Data gathered on women respondents were grouped into five categories. They are Very enthusiastic, Enthusiastic, Lukewarm, Uncooperative and Indifferent. Out of 819 respondents, a total of 215 (26.3%) ticked lukewarm, 198 (24.18%) were very enthusiastic, 162(19.8%) were indifferent, 160 (19.54%) were enthusiastic and only 84 (10.3) were uncooperative. If one compares the positive and negative attitudes of these respondents, it will be discovered that 358 (43.72%) were positively disposed to breast health while 561 (56.4 percent) were negatively disposed to it. On further questioning to ascertain reasons for these attitudes, the table adopted revealed that majority of the respondents exhibit negative attitude towards breast health because they are financially handicapped as 546 (62.47 percent) of respondents signified that they lacked the financial ability. Others 279 (31.92 percent) feel neglected and 49 (5.61 percent) have poor health conditions.

Let it suffice one to say that individuals' attitudes towards any information affects their willingness to indulge in any behavior change.

Findings on Influence of Religious Affiliation on Willingness to Allow Clinical Breast Examination and Mastectomy

From data generated for the study, it was discovered that Christianity scored highest i.e. 736 (85.38 percent) Islam 119 (13.81percent) and Others 7 (0.81 percent) It could be concluded that majority of respondents were of the Christian religion. However, the hypothesis used to test the effect of women's religious affiliation on presentation or clinical breast examination and surgical removal of the breast (mastectomy) was considered using two tables. The first table looked at the effect of religious affiliation on willingness to examine breast for lumps and the second considered the effect of religious affiliation on willingness to allow surgical removal of the breast. Results emanating from these tests indicated a highly significant effect of religious affiliation on willingness to do breast examination and allow surgical removal of the breast.

Religious services significantly affect women's daily lives. They believe that religion is very important in daily life and self-identification. This could, however, be associated with multiple breast cancer risk. This stance seemed to align with the findings of the research work.

Kinney, Emery, Dudley and Croyle (2002) reported after their study, that religion and spirituality play a significant role in imbibing breast cancer intervention techniques. They estimated that as many as 72

percent of African Americans are members of a church and they use their religious beliefs and practices to cope with and reduce illness related psychosocial distress.

In the choice of mastectomy or lumpectomy for women in the Carolinas, Benedict, Cole, Baron and Baron (2001) submitted that religion is very fundamental in decision taking. Further-more, corroborating the findings of this research work, Stygall, Mohammed, Keshtgar and Newman (2006) examined the beneficial effect or otherwise of religion and spirituality on breast cancer diagnosis and they found out that religion serves multiple functions on long-term adjustment to acceptance of cancer diagnosis. According to them religion helps to maintain self esteem, provides a sense of meaning and purpose, gives emotional comfort and provides a sense of hope.

It was also pointed out by Meril (2008), that religious people experience poorer survival ability, from breast cancer than others. A cursory look at the initial researches carried out and brought to the fore in this work all seemed to corroborate the findings on effects of religious affiliation on some intervention activities on breast cancer. The implication of this therefore, is that religious people should be targets of breast cancer education in addition to other professions indicated in earlier findings. Nigerians are a very religious people and this religion seemed to permeate all areas of our lives. It will take conscious efforts on the part of awareness creators to draw a line between faith and reality, religion and medicine and the ability to

make women in particularly, see reasons why they should be conscious of their health regardless of their religious inclinations.

Findings on Issues of Lifestyle of Women in Lagos State

The issue of lifestyle is very paramount in risk assessment for breast cancer and that explains the reason for its inclusion in the questionnaire for women respondents. This was also the position of Oluwatosin and Oladepo (2006) Data collected were analyzed on lifestyle issues relating to women generally in Lagos state. These data generated dealt with areas relating to physical exercises of the respondents, fruit consumption, vegetable consumption, consumption of carbohydrates and opinion on lifestyle issues and their effects on breast health. Others were issues relating to their opinion on breast cancer and life threats, women been prone to breast cancer and use of traditional herbs for breast cancer treatment. Results from the analysis showed that most women are passionate about what they eat and physical exercises. However, carbohydrate consumption seemed to be higher than expected i.e 65.53 percent of respondents consuming it highly.

Furthermore, to determine whether certain negative lifestyles have impact on women's breast health induced a positive answer as 66.71 percent of the respondents totally agreed, however 33.29 percent did not agree to this. It is therefore expedient to state that women in Lagos are aware of the hazards caused by negative lifestyles.

On use of herbs for breast cancer treatment, 51.11 percent would rather go the orthodox way i.e. hospitals rather than see a trado-medical man. Respondents do not see breast cancer as life threatening neither do they foresee all women been at risk of breast cancer. Findings documented by Adebamowo and Ajayi (2000), Olopade (2004) Orija (2007) agree that life style is a major factor that predispose women to breast cancer.

Ikpah (2002) Coe (2003) and Ferley and Schwatsmann (2005) concluded that certain environmental exposures are strong factors for risk of breast cancer. In addition, intake of saturated fats, alcohol, high cholesterol level and smoking may increase this risk in women. They also wrote, supporting the result of this research work, that frequent intake of vegetables and fruit consumption may decrease possibility of been diagnosed of breast cancer. In addition to the above Kreuter (2004) noted that fruits and vegetable consumption was greater among African American who had earlier received education or health information.

Contrary to the findings of this research work, Rugo (2000) documented that alternative complementary therapies have become very popular for the management of symptoms and cancer treatment. According to him, in his study in San Francisco, Bay area, 72 percent of women used at least one type of alternative modality and about half combine both conventional and non-conventional

therapies. Confirming his findings, Casileth (1999) and Richardson (2000) found out that between eight to ten percent and 61.8 percent respectively frequent alternative practitioners. The Applesee project (2000) supported Rugo (2000) and Casileth (1999) and Richardson's (2000) claim of the use of herbs and medicinal species for breast cancer treatment.

Findings on the Psychosocial Determinants of Breast Cancer Prevalence, Awareness and Perception in Lagos State

The Research question used asked the Question "What are the psycho-social determinants of breast cancer prevalence, awareness and perception in Lagos State?" This research question was answered to validate the conceptual model developed for the study. However, while analyzing data generated to determine the psychosocial determinants of breast cancer using of Factor Analysis, nine factors were identified. These are the psychosocial determinants of breast cancer prevalence, awareness and perception in Lagos State. These nine psychosocial factors include awareness about breast cancer campaigns and practices of intervention techniques. The principal components of this factor ranged from awareness of signs and symptoms of breast cancer, awareness of clinical breast examination and breast self examination, information on breast cancer, whether the respondents believe that women are prone to having breast cancer which will predispose them to annual medical examination and possibility of allowing mastectomy if diagnosed of breast cancer.

Awareness is a very central determinant of breast cancer health information. The individual must be aware of the intricacies involved in any preventive method before she can agree to take any step. Studies conducted by Adebamowo and Ajayi (2000), Olopade (2004) and Okobia et al (2006) showed the effect of lack of awareness on women. Okobia et al (2006) discovered that it was the awareness patients who were three months into the sickness had that necessitated their discovering the fact that they had breast cancer. According to them, this information opened up treatment options to them.

Results that emanated from Table 4.30 (a-d) showed that awareness of clinical breast examination influences the practice of breast self examination, awareness of signs and symptoms of breast cancer has a significant effect on the practice of breast self examination, practice of breast self examination is significantly influenced by awareness of breast self examination and awareness of breast cancer significantly influences the practice of breast self examination. Onajole, Ajekigbe, Dawotola, Odeyemi, and Abdulraheem (2006) in their cross sectional study of awareness of breast self examination among female non-medical undergraduates discovered that despite the fact that awareness was high among this group of female students, only 23% from Lagos State University (LASU) and 18% from University of Lagos (UNILAG) felt that breast cancer was a major health problem affecting females in Nigeria. In addition, 72% in LASU and 52.5% in

UNILAG were aware of screening methods for detecting breast cancer yet, in the two institutions 53.3% and 70% in LASU and UNILAG respectively had never done breast self examination. The study has indicated that awareness of any of the screening or preventive methods is pivotal to engaging in the stated screening procedures but majority of women have not learned self examination of the breast, hence the discovery of the disease is usually accidental thus late presentation at hospitals. It is therefore important that early detection through screening such as breast self- examination and clinical breast examination be encouraged.

Onajole et al (2006) posited that mass-screening test is not intended to be diagnostic. Persons with positive or suspicious findings must be referred to their physicians for diagnosis and possibly treatment. Mass screening for early detection of breast cancer according to them, is based on the seriousness of the problem of breast cancer and the breast being the most common site of cancer in women constituting 28 % of all cancers in women worldwide necessitated that breast self examination be suggested as a practical solution for early detection of breast cancer. Though it may not be as efficient as an examination by a doctor or trained nurse (Clinical Breast Examination) yet it is an available method in countries that do not possess means of screening the female population at risk. It is simple, inexpensive, non-invasive and harmless. Women themselves take charge of the responsibility for detecting breast cancer. This

habit must be inculcated early in life so that a change in attitude and practice is in place for early diagnosis. This result is therefore expected.

Another determinant identified, was attitude to the Oncologist or Radiologist, it has such components as respondents' willingness to visit a male Radiologist for breast examination. Table 4.34 (a) tested this determinant with religious affiliation as a basis for respondents' willingness to present themselves for clinical breast examination to the male Oncologist or Radiologist. Result emanating from the test indicated that respondents' religious affiliation significantly influence their willingness to do clinical breast examination. Ememe (2008) wrote that religion shapes peoples' behaviour especially regarding health decisions. It also influences which information and knowledge is available to the people and determines how they use the information gathered. Religious Institutions influence behaviours as it influences community practices. This finding also aligns with the research findings.

The third determinant hinged on demographic characteristics of the respondents. It had variables such as age of respondents, occupation, marital status etc. Research findings have shown considerably that age is a determinant for being diagnose of breast cancer. Studies by Calle et al (1998) Olopade (2004) and Okobia et al (2004) showed that age is a risk factor for breast cancer. Age at

first birth or menarche (first menstruation) the older a woman gets, the higher the risk of breast cancer. This study has identified that ages 25- 45 years recorded the highest prevalence of breast cancer in Lagos State. The type of occupation a woman engages in has also been indicated as a propelling factor for breast cancer. It was discovered, after analysis of the data collected that hyperactive women such as those in business or traders have high prevalence of the disease and the study concluded that prevalence of breast cancer significantly varies from one profession to the other. This position was also corroborated by studies conducted by Calle et al (1998), Britton et al (2003). On marital status, Ikpah (2002) Ferlay and Schwatson (2005) concluded after their study that breast-feeding seemed to protect against pre-menopausal forms of breast cancer. According to them, the longer breast-feeding takes the better for the woman. Married women who are actively procreating have lesser chances of been diagnosed of breast cancer.

Attitude to health awareness campaigns was identified as the fourth determinant of breast cancer prevalence awareness and perception. Findings from this study revealed that respondents reacted to breast cancer awareness campaigns in various ways however, majority i.e. 234 (31.2 %) felt unperturbed by the information passed to them and 260 (34.66 %) believed they still had the time to reason and act when they eventually have breast cancer. Supporting this stance, WHO (1995) and Klouda (1995) noted that some awareness

programmes are not effective in bringing about behaviour change because most of such awareness programmes concentrate on influencing individual behaviour without taking into consideration the social, economic and other structural determinants of risk that act as barriers to adopting such preventive behaviour.

On that note, Ememe (2008) listed the prerequisites for successful behaviour change to include: awareness of public and personal risks, social acceptance of risk reduction behaviour, setting structures for sustaining behaviour change, an atmosphere where open discussion of risk behaviour could take place and the development of a cultural environment that support this change.

To allow change of any sort, Friere (1976) wrote that the level of consciousness of the person for which this change is sought should be addressed because a conscious person is already liberated. He advocated for planning awareness programmes that adopt methods acceptable and familiar to these women – an education their situation demanded to enable them discuss their problems courageously. This education, Osuji (2007) believes will warn them of the dangers of the time and offer them the confidence and strength to confront those dangers instead of subjugating themselves to the decisions of others.

The fifth factor brought out was the psychological reactions to breast cancer. The study concluded that there was a significant effect of

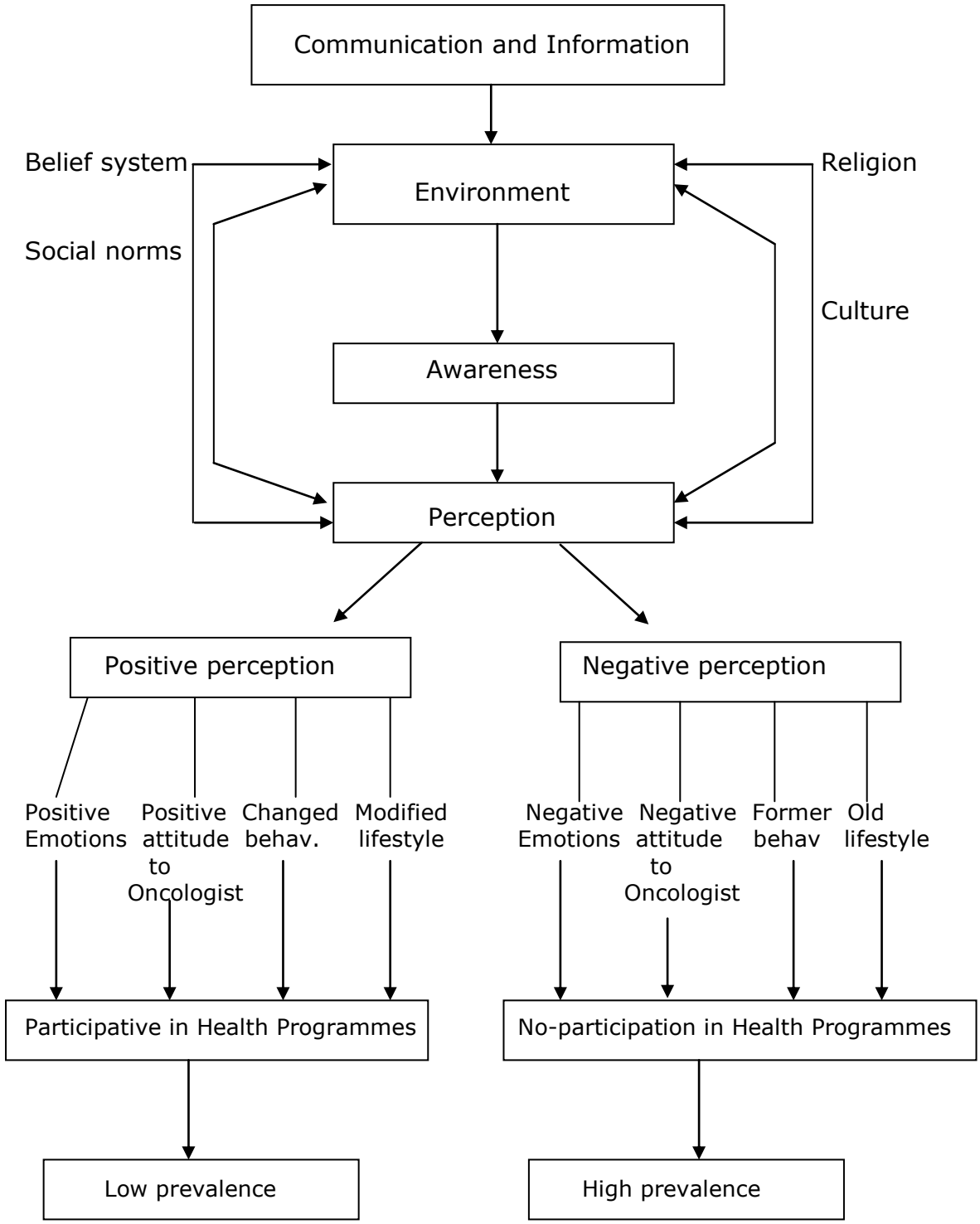
emotions of women on their willingness to discuss breast cancer. Feeling of anxiety was demonstrated by most of the women who responded to the questionnaire.

Lifestyle was the sixth determinant identified. This position was supported by research findings documented by Eileen, Crimmins and Saito (2000) Ikpah, et al (2002) Ferley and Schwatsmann (2002) Coe (2003) Olopade (2004) and Ogundipe and Obinna (2008).

The seventh factor was residential location for the respondents. From the factor analysis of data gathered, communalities presented an interesting picture with residence that is (Local Government Area) showing the highest communality. Residence shares its variance with all the other 47 variables, making it possible to view the communality of all other variables from the perspective of residence.

Frequency of participation in health programmes or campaigns and ethnic group of respondents formed the eighth and ninth determinants respectively. Different ethnic groups possess different cultural practices that promote or otherwise any health programme designed for the people. These cultural or ethnic undertones rather than what the people hear or know about breast cancer determine their decisions as par the health programmes. As a result of the findings relating to the psycho-social determinants of breast cancer prevalence awareness and perception, the initial conceptual model designed was redesigned to reflect the findings of the study. This new model is shown in Figure 27.

Fig.25: Redesigned Conceptual Model on the Psychosocial Determinants of Breast Cancer Prevalence Awareness and Perception



The above model highlighted the nine psycho-social factors that determine the prevalence, awareness and perception of breast cancer in Lagos State. According to the model, no one factor is robust enough to propel prevalence, awareness or perception of breast cancer. It is the combined effort of all the nine factors.

The model specified that when information on breast cancer or any health concern is disseminated, it is communicated through acceptable media known and understood by receivers of such information. This communicated information gets to the Environment. In this model, environment signifies the residences or local government areas of the recipients. Any environment is characterized by factors that could inhibit or enhance the adoption of information. Some of these factors include Religion of the people, their belief system, the social norms and the acceptable way of life or culture of the people. The reception of the information will be dependent upon how positively or negatively these factors have influenced the information. To some recipients, the information is welcomed, while the negative influence of these environmental factors make the information repulsive to others. However, whatever be the stance of the recipients, the disseminated information creates awareness. When awareness is created, recipients further subject the information they receive to their perception of the information. The ever-present influence of the environmental factors such as religion, culture, social norms and the belief system in general further impact

on their perception of the information. The influences these environmental factors have on perception determine whether the recipients will be positively or negatively dispose to the information. When the perception is positive, then the recipients are likely to adopt the information disseminated to them. This is exhibited in their emotions, positive attitude towards the Oncologist, (if the information is on breast cancer) changed behaviour and modified lifestyle which tends towards their willingness to participate in health programmes and finally to low prevalence.

On the other hand, when perception of the information disseminated into the environment is negative, recipients tend to exhibit negative feelings and emotional expressions, negative attitude towards the Oncologist (if the information is on breast cancer), their former behaviour will be maintained and old lifestyle will still remain. This stance will eventually lead to non-participation in health programmes and ultimately to high prevalence of the disease.

The implication of this is that awareness creators and programme planners must take into account these psychosocial factors while planning and designing programmes for women and particularly for specific age groups and occupations that have been identified as having high risk for breast cancer. The information packaged for each target group should be tailored to address such groups experience, social realities, feelings, and perceptions.

4.4 Summary of Major Findings

1. From the analyzed data, it was revealed that women's willingness to participate and imbibe breast cancer awareness is hinged on their level of education.
2. In this same vein, awareness of breast cancer is high in Lagos State. Women's awareness of breast self examination and clinical breast examination, in addition to signs and symptoms of breast cancer have significant influence on their practice of breast self examination and clinical breast examination but the awareness has not impacted on their practice of BSE and CBE despite the activities of adult health educators.
3. Religious affiliation is a strong factor that determines women's willingness to see a male Radiologist for detection of breast lumps and allowing mastectomy or surgical removal of the breast if the need arises.
4. It was also discovered that prevalence of breast cancer varies significantly from one profession to the other. Housewives were found to have the highest representation of breast cancer documented cases while women in the medical professions were found to be in the minority.
5. Women's emotions, feelings and perceptions of breast cancer, signs and symptoms and intervention techniques influence their decisions and participation in breast cancer awareness and intervention programmes.

6. Prevalence of breast cancer disease was found to be different across the ages and periods under study Age group 0 – 14 recorded insignificant occurrence while age groups 26 –45 recorded the highest prevalence of the disease. The year 2007 had the highest prevalence rate from the analysis of data for the study.
7. The study discovered the psychosocial determinants of breast cancer prevalence, awareness and perception in Lagos State.
8. The study found out that most of the hospital visited for data collection had problems with record keeping. Note books were used to record breast cancer cases in the hospitals. One would have expected that health records of this magnitude would have been properly documented electronically for easy retrieval on request. It was an uphill task sorting out breast cancer cases from other related diseases such as other cancers.
9. Another striking finding from breast cancer recorded cases was the fact that the variables documented in the note-books were not comprehensive enough. Variables such as patients' level of education and religion were conspicuously left out. Dates of deaths were not accorded to several cases of patients who died during treatment. The researcher was left in doubt as to when actually such patients either terminated their treatment or died in the process.

10. On the part of women respondents used for the study, it was discovered that some women refused to take the questionnaire when they heard it was on breast cancer. Those who agreed to respond to the questions exercised restraint in answering those questions relating to or directly seeking information on their been diagnosed of breast cancer.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

5.1 Summary

The study examined breast cancer prevalence, awareness and perception of intervention techniques among women in Lagos State from a psychosocial viewpoint. Concerted efforts were made to determine effects of education on women's willingness to participate in awareness programmes and intervention techniques and also participate in breast self examination and clinical breast examination. In addition, the study also determined the prevalence of female breast cancer in relation to age and periods designated for the study. The occupations and emotions of women in line with breast cancer diagnosis, effect of religious affiliation on participation and diagnosis and psychosocial determinants of breast cancer were also critically considered.

The study was undertaken in Lagos State and selected Local Government Areas were used for the study. 200 respondents were chosen from each of the selected local government areas. The research designs adopted were a combination of the descriptive survey research and the qualitative research methods.

These research designs chosen were considered adequate for the study because they are adequate for establishing existing relationships, practices, beliefs, attitudes of people. On the other hand, the qualitative research design is adequate for the psychological aspect of the study, which is more of emotions, feelings and attitudes. A total of 1000 respondents were drawn from selected local government areas. In addition breast cancer records were also retrieved from designated hospitals and interviews were also conducted for chief executives of government and non-government organizations. The analyses of data were done using different adequate and suitable statistical tools. The main research instrument used in the study was the questionnaire while interview schedules and breast cancer records were used in addition. The questionnaire and interview schedule were developed by the researcher.

A pilot study was carried out before the main study. This was because the researcher wanted to identify areas where difficulties may arise if the instrument was directly administered on the respondents and also to ascertain the adequacy of the statistical tools. The result of the pilot study was used to rectify faulty areas in the instrument. The test-retest method was used to ascertain the reliability of the instrument and the main study was conducted a month after the pilot study. The Cronbach's Alpha reliability test based on standardized items was used and the test showed reliability co-efficient of 0.712.

5.2 Conclusion

Based on the findings of the study, the following conclusions were made.

Educational level of women influences their willingness to participate, discuss or imbibe breast cancer awareness and intervention techniques.

Breast cancer prevalence, awareness and perception in Lagos State, when considered from the psychosocial perspective, is determined by nine factors which were enumerated in the work. It is therefore necessary that adult educators working in health centers and policy makers focus attention on this aspect.

Awareness of breast cancer is high in Lagos State. Nevertheless the knowledge or awareness of breast self-examination and clinical breast examination is not commensurate with the practice of both intervention techniques. Awareness of breast cancer has not impacted on the prevalence of the disease. This could, however, be due to the fact that awareness creation became a state issue in 2004 and a lot of damage could have been done prior to that period.

The study highlighted the fact that religious affiliation has a very high influence on the women and their willingness to make healthy decisions about their breast health. Religion is a factor that hindered their willingness to do preventive measures that could lessen risk of breast cancer.

Some occupations were discovered to predispose women to high risks of breast cancer. Housewives who had breast cancer were in the majority from analysis of data gathered from the breast cancer records from hospitals visited.

In addition, age groups prone to breast cancer were identified. Women between age group 25-45 were discovered to be highly diagnosed of breast cancer. Women's perception of breast cancer disease and intervention techniques associated with stemming this ill, their beliefs, fears and anxiety significantly influences their willingness to discuss breast cancer or even allow mastectomy if and when diagnosed.

Finance was a major problem discovered to inhibit women from visiting the health centers for medical check ups and when they need attention in regard to their general well being.

Risk factors relating to lifestyle related issues were seen to be of utmost concern as far as women in Lagos State are concerned. Though they believe that negative lifestyle could spell grave danger for breast health yet majority would not believe that all women are prone to breast cancer and they would not go for annual medical screening.

Finally, it becomes important for both adult health educators and other organizations to scale up awareness creation on breast cancer particularly in the psycho-social domain to check mate the rising tide noticed about breast cancer in the State.

5.3 Recommendations

In view of the findings obtained from the study and the subsequent conclusions, the following recommendations are hereby made:

1. Informal adult education centers and formal institutions should be saddled with the responsibility of giving breast health education that would impact on the youths and growing girls. Space should be created to accommodate breast cancer education in the secondary school curriculum
2. Adequate efforts should be made through adult educators working with health institutions and other organizations to impact on women the practice of breast self examination and clinical breast examination among others. This message of breast self examination and clinical breast examination should be culturally relevant to the recipients
3. Nigerians and particularly, women in Lagos State are very religious, however, in as much as religion should not be relegated to the background because it has its place in the society, adult educators and awareness creators should make concerted effort to ensure appropriate understanding of the basis and probable danger when issues such as this are played down. The onus rests on them to incorporate religious activities such as prayers and faith to their programmes so that participants will easily comprehend the importance of such campaigns.

4. Professions pin-pointed as predisposing women to high risk of breast cancer should be targets of intensive campaigns. This is not to say that other professions are not important but these professions need adequate attention.
5. Age groups identified as having highest breast cancer prevalence should also be targets of campaigns. In actual fact, the young girl should have been enlightened about breast cancer long before attaining the age group identified.
6. In view of the lopsided manner records are kept in health institutions in the state, this study recommends that electronic recording be adopted for all ailments and in particular breast cancer. This will allow room for proper documentation and there should be back ups while using the electronic devices
7. For effectiveness of breast cancer campaigns, adult educators and other organizations should team up much more in creating awareness. The financial implications of the campaigns are grave and this would be shouldered by both parties while the government contributes the lion share.

5.4 Suggestion for Further Research

The following investigations have been suggested:

- Studies into other determinants of breast cancer prevalence, awareness and perception in Lagos State apart from psychosocial determinants

- The prevalence, awareness and perception of Male breast cancer in Lagos State.
- This study should be replicated in other states of the federation.

5.5 Contribution of the Study to Knowledge

- The study developed a conceptual model that exhibited the psycho-social determinants of breast cancer prevalence, awareness and perception in Lagos State. This model will provide a framework for designing future psychosocial studies on breast cancer.
- The study has provided an empirical basis for examining prevalence of breast cancer and focusing on appropriate occupations that are target groups in campaigns and awareness education on breast cancer.
- Religion was identified as contributory factors to prevalence of breast cancer as a result of some dogmas that inhibit women from allowing male Radiologist to examine breast for lumps as a means of early detection measures.

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APPENDIX A

QUESTIONNAIRE

Dear Madam,

This questionnaire was designed to elicit information on he prevalence, awareness and perception of breast cancer in Lagos using the psycho-social analysis. Please kindly read the questionnaire and respond objectively to the questionnaire as much as you can. Be assured that your responses will be used only for the purpose of this study and will be treated confidentially.

Section A: BIOGRAPHIC INFORMATION

Please tick the appropriate box.

1. Age (Last birthday): 15 –19 { } 20-24 { }
   25-29 { } 30-34 { }
   35-39 { } 40-44 { }
   45-49 { } 50-54 { }
   55 years and above { }
2. Marital status: Single { } Married { }
   Divorced { } Widow { }
   Separated { }
3. Religion: Christianity { } Islam { }
   Others (Specify) { }
4. Educational Qualification: Non Literate { }
   Primary School Leaving Certificate { }
   Secondary School Leaving Certificate { }
   OND/NCE { }
   Degree/HND { }
   Others { }

5. Ethnic Group: Hausa { } Yoruba { }
Igbo { } others specify { }

6. Occupation: Self employed { } Civil servant { }
Housewives { } others specify { }

7. Where do you live (indicate local government area)
---

8. How long have you lived in that local government area
Less than 1year { } 2 years-5 years { }
6 years { }

Section B: Respondents' Attitude Towards Beast Health

9. How would you describe the attitude of women towards health awareness campaign?
(a) Very enthusiastic { } (b) enthusiastic { }
(c) Lukewarm { } (d) uncooperative { }
(e) Indifferent { }

10. What are the reasons for this attitude?
(a) Women feel well treated { }
(b) Women fed un loved and unwanted { }
(c) Every body is on their own { }
(d) Most women do not have enough money to take care of their health needs { }
(e) Feel depressed because of their health conditions { }

Section C:

Please tick the appropriate column which best expresses your opinion on each statement (item below) The options are Strongly Agree (SA) Agree (A) Disagree (D) Strongly Disagree (SD)

Respondents' Life style

S/N	Statement	SD	D	A	SA
11	My physical exercises are quite regular				
12	I take fruits regularly				
13	I take vegetables regularly				
14	I take carbobydrates regularly				
15	Some lifestyle can have adverse				
	effect on breast health				
16	Breast cancer is a life- threatening disease				
17	All women are prone to breast cancer				
18	Herbs and fauna can cure breast cancer				

PART II: As indicated above please tick the right options. The options here are Quite Unwilling (QUW), Unwilling (UW) Willing (W) and Quite Willing (QW)

Respondents' Willingness to Allow Intervention Techniques

S/N	Statement	QUW	UW	W	QW
19	I am willing to discuss breast cancer awareness and intervention				
20	I am willing to allow a male Radiologist to examine my breast for lumps				
21	I am willing to undergo surgical removal of the breast if diagnosed of breast cancer				
22	I am willing, despite my religious affiliation to participate in breast cancer awareness				
23	I am willing, despite my religious affiliation to undergo surgical removal of the breast if diagnosed with breast cancer				
24	I am willing to do annual medical check up				

Section D: Awareness of Respondents on Stated Activities

25. Do you have health centers in your locality?

(a) Aware { } (b) not aware { }

(c) Not concerned { }

26. If yes, are there qualified healthy workers in the health centers?

(a) Aware { } (b) unaware { }

(c) Not concerned { }

27. Are you aware of free medical treatment all the time?

(a) Aware { } (b) unaware { }

(c) not concerned { }

28 (a) Aware { } (b) Unaware { }

(c) not concerned { }

29. How did you react to the information?

(a) Felt unconcerned { }

(b) Did not believe it { }

(c) Went for examination { }

(d) Will do something about it { }

30. Are you aware of breast self examination (BSE)?

(a) Aware { } (b) Unaware { } (c) Don't care { }

31. Do you practice BSE?

(a) Practice BSE { } (b) Don't practice BSE { }

(c) Not concerned { }

32. How often do you practice BSE?

(a) Once in a month { } (b) Twice a month { }

(c) Once in three months { } (d) Any time I remember { }

33. Are you aware of CBE?

(a) Aware { } (b) Unaware { } (c) Don't care { }

34. Are you aware of signs and symptoms of B.C?

(a) Aware { } (b) Unaware { } (c) Don't care { }

35. How often do you practice CBE?

(a) Twice a year { } (b) Once a year { } (c) Once in two years { } (d) Occasionally { }

Respondents Perception of Breast Cancer

36. How do you perceive breast cancer?

(a) Works of witches { }

(b) Normal ill health in the body { }

(c) Result of one's misdeed { }

(d) Ancestral curses { }

(e) a, c and d { }

37. How do you feel about breast health?

(a) Anxious { } (b) Bold and strong { } (c) Unconcerned { }

38. Where do you prefer women to seek help when some strange growth develops in their breast?

(a) Hospital or health center { }

(b) See a trado-medical man { }

(c) Seek neighbours' advice { }

(d) Self medication. { }

39. At the mention of Breast Cancer, how do you feel?

(a) Fearful { }

(b) Anxious { }

(c) Threatened { }

(d) Non-challenged { }

40. If your breast is removed, how do you feel?

(a) Empty and incomplete { }

(b) Great and happy { }

(c) Not concerned { }

41 Suppose you knew of Breast Cancer from this medium, what will be your next action? (a) Seek medical attention { }

(b) Take herbs and { } (c) Not concerned { }