BREAST SELF-EXAMINATION: ATTITUDES, KNOWLEDGE AND PRACTICE AMONG WOMEN IN IFO, OGUN STATE, NIGERIA.

BY

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DEDICATION

To:

God the Almighty for His provisions throughout the project Chris my husband, and Uche, Kachi, Kezie, Dimma, Michael and Baby Peace our children for their endurance and support.

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ABSTRACT

Breast Cancer is the most common female malignancy reported world-wide. In the past few years, the number of women developing breast cancer in Nigeria has risen dramatically. Despite the increasing incidence of the disease, many patients tend to report at the health facilities at an advanced stage of the disease that often result in poor prognosis. Women have an important role to play in the early detection, prompt report of signs at the hospital and management of breast cancer. A good understanding of breast cancer among women would raise the possibility of prevention and control of the disease. This study assessed the knowledge, beliefs, attitude and preventive health care practices of breast cancer among women in Ifo, a sub-urban town in Ogun State. The study provides baseline data for planning appropriate interventions.

The study is descriptive in nature. The study population consisted of women who are aged fifteen years and above. Five hundred of such women were selected through stratified sampling technique. The instrument for data collection was a questionnaire, which was pre-tested at Pakoto Village near Ifo town, before it was administered by trained interviewers.

A large majority 176 (35.2%) of the women fell within the age range of (35–39 years). There were more Christians 286 (57.2%) than Moslems 213 (42.6%). 361 (72.2%) were married with mean parity of 3.6. Although 421 (84.2%) of respondents heard about breast cancer, their knowledge about disease causation is low. A 37-point breast cancer knowledge score yielding 1–111 point score was constructed. Overall, a few 39 (7.8%) had good knowledge, more than half 322 (64.4%) had fair knowledge while 139 (27.8%) had poor knowledge score. 400 (80%) attributed the

cause of breast cancer to the use of second hand brassieres, putting money in brassieres 321 (64.2%), spiritual attacks 301 (60.2%). Majority 401 (80%) perceived themselves susceptible to breast cancer. Among respondents, a significant association was found between breast cancer knowledge and perceived susceptibility to the disease (P<0.05). 360 (72%) believed that self-breast examination (SBE) skills are easy to learn, and an equal number felt that (SBE) could be used to detect lump. Slightly more than a quarter 137 (26.8%) however, had ever performed (SBE), of this number only 2 (1.4%) performed (SBE) on monthly basis. Three respondents (2.2%) reported ever detecting any abnormality in the breast. An association was found between (SBE) practices of women and their educational attainment (P<0.05). When asked about the person they will consult first in the event of detecting abnormality in the breast, the majority mentioned husbands 373 (74.6%), others said doctors 63(12.6%) and mothers 25 (5%).

In conclusion, the women surveyed had low level of knowledge about breast cancer. Only a few of them practised (SBE). Appropriate interventions including education, group counselling should be targeted at women and husbands who appear to play important roles concerning care seeking and management of breast cancer.

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CERTIFICATION

I certify that this study was carried out by ONYENWENYI Anthonia O. Confidence in the Department of Health Education and Promotion, College of Medicine, University of Ibadan, Nigeria.

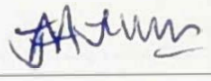

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

Breast and cervical cancers are the two major female malignancies reported worldwide. In the United States of America (USA), it is estimated that about 900,000 cases are diagnosed annually, with a 1% incidence rate. Globally, an average of five new cases of breast cancer are diagnosed every minute and a woman dies of breast cancer every fifteen minutes (Jay, Marc, Umberto and Walter, 1992). In the United Kingdom, breast cancer is the second most common cancer with every woman having a 1 in 12 chance of developing the disease in her life time (Cancer Research Campaign Annual Report; 1987; Chambers and Luker, 1996). In North America, one woman in nine will experience breast cancer at some point in her lifetime (Chambers and Luker, 1996).

This increasing trend is not different from what obtains in sub-Saharan African region where breast cancer ranks second to cervical cancers in frequency. In Sudan for example, breast cancer was in leading position among all cancers affecting female, but with lower proportion of women below 30 years (Amir, Kwesigabo, Azizi and Kitinya, 1996).

A similar trend occurs in Nigeria where breast cancer incidence is rising more rapidly in populations and groups that hitherto enjoyed a low incidence of the disease (Otu, Ekanem, Khali, Ekpo and Attah, 1989; Adebamowo and Ajayi, 1999. The data from Ibadan Cancer Registry (1960–1980) shows that breast cancer was the second

most common cancer among Nigerian women, constituting 11.2% of all malignant tumours in women (Abioye, 1981). At Lagos University Teaching Hospital (LUTH), at least one new case of carcinoma of breast was then weekly in 1997 (Atoyebi, Atimomo, Adesanya, Beredugo and Afodu, 1997); the number has increased to two new cases in 2001.

Despite the increasing incidence of breast cancer, many of the patients affected tend to report at an advanced stage of the disease that often results in poor prognosis. A study of 2154 Nigerian breast cancer patients in LUTH in 1991, identified fear of mastectomy as the most common reason for delay (44.7%), other reasons given were preference for spiritual interventions (13.5%), traditional healers (23.1%) and economic considerations (10.2%) (Ajekigbe, 1991). Miller (1992) identified other reasons for the delay in presentation among developing countries to include the fact that women's health problems are downplayed and failure by women to appreciate the importance of early detection of the disease.

Breast self examination (BSE) is one of the ways that a woman can detect early breast cancer. Early detection of breast cancer improves disease prognosis. In spite of the high risk of breast cancer among Nigerian women, the propensity to be screened for early identification or performance of breast self-examination for early identification and prompt treatment is low (Olaseha and Otolorin, 1987). This poor health care seeking behaviour was reported in several studies for breast cancer or other disease in

Nigeria (Lawani *et al.*, 1973; Ketuku, 1986; Ihekwaba, 1992; Atoyebi *et al.*, 1997; Adebamowo, 1998).

Late presentation of patients with breast cancer is a common problem in many developed countries. According to the World Health Organisation (WHO) (1996), the majority of cancer patients worldwide presents at a health facility at an advanced stage of the disease. Anxiety about illness is the main reason for the delay in the developed countries, while lack of awareness is responsible for the delay in developing countries (Adebomowo 1998). Hassan (1992) in a study in Northern Nigeria found that up to 74% of patients present at histological stage of the cancer. In a similar study on the pattern of metastasis in Nigerian women with breast cancer, Ketiku (1986) found that 75% of patients presented with distant metastasis. Late presentation of patient is a serious problem because the delay in consulting health workers is a cause of premature and avoidable deaths from breast cancer. Yet, breast cancer can be successfully managed if detected early.

There are three methods for detecting breast cancer, namely BSE, mammography and clinical breast examination performed by a health worker. Studies show that BSE should be used as a baseline screening method of breast cancer detection because it is simple, affordable, safe, and can be easily taught to women irrespective of their educational status (Petrek, 1995). Mammography is the use of machines to detect cancers. Unfortunately, mammography services are not within the reach of majority of Nigerian women because of it's exorbitant cost by local standard (Esan, 1997). Clinical

breast examination is an effective means of early detection but due to acute shortage of doctors, this procedure is seldom performed (Esan, 1997).

Problem Statement

BSE is the most feasible, affordable, effective, and realistic procedure for detection of a lump in the breast in the sense that women themselves take up the responsibility of examining their own breast. A lump is the commonest early symptom of breast cancer. Early detection of lump through BSE can be addressed through surgical intervention. Previous studies on BSE in Nigeria have focused on young undergraduates in Ibadan (Oladepo and Adegoke, 1998), women attending clinics in urban areas (Adebamowo, 1999 Anyanwu, 2000;). Limited attention has so far been placed on women living in rural communities. This study fills this gap.

Inspite of the fact that BSE is the most feasible, affordable, effective and realistic procedure for early detection and prompt report for breast cancer, the propensity for women to perform BSE is low.

Justification

Despite its severity, breast cancer, has not received adequate attention from the health care providers (Amir *et al.*, 1998). It has been estimated that by the year 2015, the number of new cancer cases in developing countries shall be 10 million (The WHO National Cancer Control Programme, 1995). Many national programmes focus on

communicable and endemic disease while limited attention is paid to non-communicable diseases, especially breast cancer.

For most women around the world, a diagnosis of breast cancer is like a death sentence. Women themselves have important roles to play in the early detection, prompt hospital report and management of breast cancer. Evidence abounds to show that early detection is the key to successful treatment and survival (Anti-Cancer Foundation, 2000). Women's existing knowledge, attitude and practices need to be determined as part of efforts to develop successful empowerment programmes. Such data will serve as baseline data that is crucial for successful interventions.

The Research Objectives

The general objective of this study was to assess the knowledge, attitudes, and preventive BSE practices of women towards breast cancer disease. The specific objectives were to:

1. Document the knowledge, and perceptions of women in Ifo Town in terms of causes, signs and symptoms for breast cancer.
2. Determine the practice of BSE among these women.
3. Describe the socio-demographic characteristics associated with the practice of breast self-examination.
4. Identify sources of health information among women in Ifo Town concerning BSE.

5. Describe the perceived self-efficacy level of the women to perform BSE

6. Discuss the implications of these findings for prevention and control programs.

Operational Definitions

Cancer: Growth of malignant abnormal cells which can affect any part of the body: Malignant because such cells acquire independent self-regulation, removing themselves from the normal body regulatory mechanism, thereby causing serious harm to the body.

Cancer of the breast:- Malignant growth of breast tissue. It can begin as small painless fixed lump most frequently located in the upper outer quadrant of the breast.

Preventive practice: Any intervention undertaken by someone aimed at preventing or identifying a disease at asymptomatic stage. With respect to breast cancer breast, there three preventive practices namely, breast self- examination, mammography, and physician breast examination.

Breast Self-Examination: It is an autonomous preventive health behaviour. It is also the monthly breast inspection and palpation undertaken by women themselves from age 16 and above by looking at and feeling the breast for any change from normal. This procedure is done four to seven days after the menstrual period and for post-menopausal women, they need to check every month at same day.

Attitudes: In this study refers to the way of thinking and behaviour of the women towards Breast Self-Examination (BSE). This attitude could be positive and negative and would to a great extent influence their practice of BSE.

Knowledge: Is what the women know about the causes, signs and symptoms, preventive practise of BSE for breast cancer including when, how to perform BSE.

Women: Women refers to females from age 15 – 70 years of age who are residing at Ifo Community at the period of study.

Pre-menopausal woman: A woman in the processes (condition) leading to menopause, - when she ceases to menstruate. Pre-menopausal events usually occur in women of 40 - 50 years. This phase proceeds menopause, and its characterized by:- irregular menses, erratic menstrual flow, episodic hot flushes, emotional and mood changes, changes in Libido. In one quarter of women it occurs before age 45. In about a quarter of women it occurs at about age 45 years, in about half it occurs after 50 years of age.

Study Limitations

Respondents had different names and descriptive terms for breast problem, which made it difficult to establish the actual name for breast cancer in Yoruba. A common understanding of terms is important for intervention program. The inclusion of the demonstration of self-breast examination by respondents restricted researchers to recruit only female interviewers because male inclusion made respondent not cooperate on BSE demonstration.

CHAPTER TWO

REVIEW OF LITERATURE

Nature and extent of the problem

Cancer accounts for approximately 8.5% of 51 million deaths occurring in the world each year (Hakulinen *et al.*, 1986) for more than half of the deaths occurring in developing countries are also due to cancer (Parks, 1997). Breast cancer is the second leading killer disease, and was rated above heart disease, the leading cause of death worldwide (Riccardi and Gardullo, 1993; Ojofeitimi, Olukoga and Jinadu, 1996; Healthy Communities 2000).

Cancer has traditionally often been thought to be a problem common only in the developed countries. However, recent data show that half of all cancers are from the developing countries (Ojofeitimi, 1998). It is estimated that by the year 2015, the number of new cancer cases in developing countries will be 10 million compared with the 5 million in developed countries (National Cancer Control Programme, WHO, 1995). Despite the increasing incidence of cancer, the disease had been given limited attention in many developing countries including Nigeria. Several factors are responsible for this pattern including the fact that deaths due to cancers constitute only about 5.5% a figure less than 40% mortality due to infectious diseases.

Amongst women, breast cancer is the most frequent female malignancy reported worldwide. Breast cancer has been described as a major threat to the health of women in

the sense that two-thirds of women diagnosed with breast cancer are likely to die from the disease (Chalmers and Luker, 1996)

Breast cancer is the most common cancer and the second leading cause of cancer deaths among women in the United States (John *et al.*, 1994). In the US, the lifetime odds of developing breast cancer have reached one in eight, with an incidence rate of 85 per 100, 000 world population 2000 (Walker, Walker, Stelma 1995). The American Cancer Society estimates that in the United States in 1999, over 175,000 women will be diagnosed with breast cancer and approximately 43,300 will die from this disease. Breast cancer also accounts for 29% of all cancers in women. In the same country, it is estimated that one woman out of eight will develop breast cancer at some time during her life (Liu, 2000).

The rate is half or less in women in some Mediterranean countries. In North America, one woman in nine will experience breast cancer at some points in her lifetime. In the United Kingdom, the figure is somewhat lower, one in 12 (Chalmers and Luker, 1996). Among Canadian women, breast cancer is one of the most serious health concerns. Breast cancer accounts for 30% of all new cancer cases (Bondy, Luskbader, Halabis *et al.*, 1994; Gaudette, Silberger, Altmayer, *et al.*, 1996; National Cancer Institute, Canadian Cancer Statistics, 1997). The number of cancer patients in the world is increasing.

In Australia, breast cancer is the most prevalent cancer in women with about 2,400 women dying as a result of it each year (Jelfs, Gilles, Shugg, Taylor, Roder,

Fitzgerald, Ring, Condon, 1994). The chance of a woman in Australia contracting breast cancer in her lifetime is 1:13 (Karlick *et al.*, 1996). Thus, breast cancer is a predominant cancer that affects women in an increasing number of countries (Parkin *et al.*, (1988). In describing the trends in incidence and mortality of breast cancer, 12 percent of all women in United States will be given a diagnosis of breast cancer and 3.5 percent will die of the disease. The impact is magnified because women are at risk from their middle to later years (Harris and Leppman *et al.*, 1992).

In less affluent parts of the world and in the Far East, the rates are much lower. In Japan for example, the overall incidence of breast cancer has been only about one-fifth that of the United States (Harris *et al.*, 1992). In several countries, breast cancer mortality has remained unchanged in women aged less than 60 years and increased slightly in older women (Nab *et al.*, 1994).

African Perspective on Breast Cancer

Breast cancer incidence rate has been increasing in nearly all the countries of the world including societies that hitherto enjoyed a low incidence of the disease, such as African countries (Adebamowo and Adekunle, 1998). Breast cancer was generally assumed to be less common in black women than in whites. Reports from Africa tend to support this (Adelusola, Fadiran, Adesunkanmi, Odesanmi, 1996).

Among rural African women, the rate is 85 per 100,000 (Bassett *et al.*, 1995). Also among African women, the breast cancer rates are lower when compared with the

white. Certain protective factors such as reproductive behaviour, high parity, prolonged periods of lactation and amenorrhoea and a diet relatively low in energy intake and fat, but high fibre contents among African women were responsible for the lower incidence of breast cancer (Walker *et al.*, 1995). For the African women, other protective factors include slower growth before and after puberty, late age at menarche, high teenage pregnancy, high parity, long periods of lactation and amenorrhoea. Also, diet of relatively low in energy, fats, and high fibre content, high intake of mono unsaturated fat and vegetable and fruits (Walker, Walker, Stelma, 1995).

In spite of the protective factors, a steady increase in the incidence of breast cancer had been reported in several studies in Africa. In Nigeria, breast cancer is one of the three top general causes of mortality among women (Esan, 1997), although no true incidence for the disease had been ascertained. Data from Ibadan Cancer Registry (1960-1980) revealed that Carcinoma of the breast was the second most common cancer among Nigerian women, constituting 11.2 percent of all malignant tumours in women (Abioye, 1981). According to Olukoye (1982) an estimated incidence of two thousand cases of breast cancer occur every year based on an international incidence rate of 9.4 per 100,000 women per year.

In Ibadan and Ife in Southwestern Nigeria, an increased incidence of 5.3% and 11.2% were reported respectively (Faccione et al., 1995). In Maduguri in North-Eastern Nigeria, the incidence of breast cancer is 13.5% and 3.5% in the North Central area of Zaria (Faccione *et al.*, 1995). At the Lagos University Teaching Hospital (LUTH), at

least one new case of carcinoma of the breast was then seen weekly (Atoyebi, 1997). Similar evidence of increasing incidence was reported in the studies conducted by Otu and colleagues (1989) at the University of Calabar Teaching Hospital.

Breast cancer was previously thought to be relatively rare in Africa. However, in recent years the prevalence of breast is on the increase due to increasing adoption of western life style, effects of urbanization and dietary changes (Newton, Ngilimana, Grulich, Beral, Sindikubwabo, Nganyira, Parkin, 1996; Atoyebi *et al.*, 1997).

One of the disturbing trends of breast cancer in Africa is the increasing number of young women affected by the disease. In Tanzania, for example, a profile of breast cancer patients in 1974– 85 shows majority of those affected were among young sexually active age groups. Similar trend occur in other sub-Saharan countries, especially in Nigeria where one study in Ilorin confirm that majority of women with breast cancer are below 40 years of age as shown in Table 1 (Amir, Kwesigabo, Azizi, Kitinya, 1996; Adeniyi, 1999). In that study, the number of cases of carcinoma of breast cancer was seen in women in their mid or late twenties and thirties and some of such patients were students in institutions of higher learning or youth coppers.

Table 1. Age Incidence of carcinoma of the female breast

Age (in years)	Number	Percentage
0-9	0	0
10-19	1	0.25
20-29	16	4.03
30-39	77	19.40
40-49	111	27.96
50-59	77	19.40
60-69	62	15.62
70-79	18	4.53
80-89	2	0.50
90-99	1	0.25
Age unspecified	32	8.06
Total	397	100

Source: Adeniji, KA (1999): Pathological appraisal of carcinoma of the female breast in Ilorin, Nigeria, The Nigerian Post graduate medical journal, 6 (2): 56-59

The most common histological type of breast cancer in sub-Saharan including Nigeria is infiltrating ductal carcinoma (Oluwole *et al.*, 1996). Similar report of studies undertaken at University College Hospital (UCH) in 1980 confirmed infiltrating ductal carcinoma as dominant type (Ihekwaba, 1980). In a ten-year review of breast cancer conducted in the Eastern part of Nigeria, result revealed that patients with cancer of the breast comprised of 30% of all patients with breast disease with a male. The age mean was 44 years with a peak of 35-39 year range, 64% had advanced disease on presentation, and 4% gave a positive family history and 12% a history or previous benign breast disease. 7% presented within one month of discovery of symptom while 15% waited longer than one year. Breast cancer in Eastern Nigeria follow a similar pattern seen in other parts of the third world where late presentation is a common practice (Anyanwu, 2000).

In black women, the common sites of the breast for cancer is more in the lower half of the breast, this is in contrast with the white women whose common site is in upper outer quadrant (John, Berg, Hutter, 1994). Among the blacks, cancer affects the right breast most frequently than the left (Adeniyi, 1999) a common finding confirmed in many parts of Nigeria (Chiedozie, 1985; Adelusola, Fadiran, Adesunkanmi, Odesanmi, 1996; Atoyebi, Atimomo, Adesanya, Beredugo, and da Rocha-Afodu, 1997).

Mastectomy continues to be the treatment choice for breast cancer in the sub-Saharan countries, although many patients resent this procedure (Amir, *et al.*, 1996). Several studies show that in tropical African countries, most breast cancer patients seek

hospital treatment when the disease is far advanced, consequently, little can be done and prognosis is uniformly poor (Otu, 1982; Khwaja *et al.*, 1986; Ekanem *et al.*, 1989; Otu *et al.*, 1989; Adebowomo, 1998; Adeniyi, 1999). As a result of the above, one is not therefore surprised that the survival rates for breast cancer are relatively poorer for black women (John *et al.*, 1994).

Etiology

Despite the advancement in treatment of breast cancer, the cause of the disease is unknown. However, many scientists agree that the disease is triggered by several related factors, including known and unknown causes. Environmental factors including the use of tobacco products, alcohol, dietary factors, occupational exposures are thought to be responsible for 80-90 percent of all human cancers. The variable incidence of breast cancer in different parts of the world suggests that environmental influences are important etiology (Adebamowo, 1998). Female breast is one of the most radiosensitive parts of the body. Women exposed to ionising radiator or toxic chemicals have an increased risk of breast cancer. The review below discussed some of these factors.

Risk Factors

Diet

Scientists have suggested that breast cancer may be due to vitamin-deficiency disease, especially the lack of vitamin D which helps the body absorb calcium, which may in turn help prevent uncontrolled cell growth (Devra-Davis 1994). Excessive

consumption of dietary fat, cholesterol in the form of animal protein coupled with low intake of dietary fibre have been linked to incidence of cancer (Lubin and Wax, 1986; Schapira, Kumar, Lyman, and Cox, 1990). Cholesterol is a precursor of bile acid, which has been implicated as carcinogenic i.e. (cancer causing) while excess protein stored in the form of fat in the body leads to overweight and obesity (Ojofeitimi, 1998). Fats in diet are predispose to breast cancer and evidence abound to show that death rate from cancer are highest in countries like USA where the intake of fats and animal protein is high. Whereas countries like Japan and most developing countries have low risk because of low in take of fat (Awake, 1994). Recent trends show that change in eating habits in both the developed and developing countries is partly responsible for increasing incidences of breast cancer.

Excess calories raise the risk of breast cancer. Obese women are thought to have a three fold higher risk of breast cancer especially post-menopausal women (Awake, 1994; Stephen-Haves, 1987). Central obesity (fat around the abdominal area) coupled with low physical activity predisposes the onset of breast cancer (Ojofeitimi, 1998). Also body fat produces estrogen, a female hormone that can act adversely on breast tissue. Increased incidence of breast cancer had been associated with a high fat diet and obesity.

Genetic Composition

Genetic factor have long been suspected to cause most human cancers. There is probably a complex inter-relationship between hereditary susceptibility and environmental carcinogenic stimuli in the causation of cancers. Epstein-Barr Virus has been linked to the development of breast cancer (LI LIU 2000).

Other risk factors

Age is associated with breast cancer. For example, it is uncommon to find breast cancer among women below the age of 35 years but the incidence increases in those aged between 35 and 50 years, with an increased incidence at the time of menopause. A secondary rise in frequency often occurs after the age of 65 years i.e. post-menopausal period. However, the causes of pre-menopausal and post-menopausal breast cancers appear to be different (Hislop *et al.*, 1986).

The risk of having breast cancer is high in women with strong family history of the disease especially women whose mothers or sisters developed breast cancer when pre-menopausal (MacMahon *et al.*, 1986). The risk of breast cancer is directly related to the age at which women bear the first child. (MacMahon et al. 1986). Women whose first pregnancy occurs in their late thirties are at a higher risk than multiparous women. Multiparty was a factor that was thought to confer immunity for breast cancer among women. This is contrary to the findings of Adebamowo *et al.*, (1998) who reported in

case control study of risk factors of breast cancer in Nigeria, that the majority of cancer patients were multiparous of 6 and above.

Early menarche and late menopause are established risk factors. Forty or more years of menstruation doubles the risk of breast cancer as compared with 30 years (Marks, 1985). This implies that there is reduced risk for women with surgically induced menopause. The association of breast cancer with early menarche and late menopause also implies that activities of the ovaries must be playing a crucial role in the development of breast cancer. Recent research suggests that both elevated oestrogen and progesterone are important factors in the causation of breast cancer. This fact also explains the rationale for the use of the hormone oestrogen in the treatment therapy for breast cancer patients. Several research studies have highlighted the role of prolonged exposure to endogenous oestrogen hormone as a risk factor for breast cancer (MacMahon *et al.*, 1970; Henderson, 1993; Forbes, 1997; Adebomowo, 1998).

Patients with breast cancer tended to be of an early birth order, majority were usually first or second born children as suggested in the findings of Adebomowo *et al.*, (1998) in a study of epidemiological risk factors among breast cancer patients. Oral contraceptive appears to have little overall effect on breast cancer. However, prolonged use of oral pills before age 25, or first pregnancy, increases the risks in younger women (Pike, 1983). In summary, according to the World Health Organisation Health (WHO, 1998), scientists have found that the risks of having breast cancer increases for a woman who:

1. Has not breast-fed a child.
2. Has never had a child (nulliparous woman).
3. Has the first baby after 35 years of age.
4. Whose family members have had breast cancer.
5. Has appearance of lumps in the breasts.
6. Becomes too fat.
7. Eats food with a lot of fats and oil.

However, it is thought that reduction in any of these risk factors does not necessarily prevent the occurrence of the disease. Use of mammography is recommended for early detection of breast cancer. Prudent lifestyle including avoidance of obesity, alcohol, smoking and exercise are also recommended for the prevention of the disease (Walker 2000).

Persons affected by BC

The American Cancer Society estimates that in the US in 1999, breast cancer remains the leading cause of cancer death of adult women under 54 years of age, and second common cause of death after age 54. Similar report confirmed that in the developed countries, the incidence increases during the fourth decade and become substantive before the age of 50. After menopause, incidence continues to increase with age, but less dramatically than before (Harris *et al.*, 1992). Breast cancer occurs mainly in peri-menopausal (around menopause) and post-menopausal (after menopause) in

Caucasian women, but is occurs more commonly in pre-menopausal women among blacks. Most of these women are yet to complete their families (Adeniyi, 1999). An appraisal of 100 cases of breast cancer attending LUTH between 1992 and 1995 revealed that most patients (95%) were parous and majority (62%) were pre-menopausal. It is noteworthy that nulliparous was rare among the patients (Atoyebi, *et al.*, 1997).

Breast cancer occurs also in males but not at significant rate. Out of the 100 cancer patients' appraisal attending LUTH conducted by Atoyebi and others (1997), only one male was involved. However, the frequency of breast cancer amongst males was reported as high (9%) in the study conducted in the northern Nigeria (Khwaja, Nirodi, and Lawrie, 1980). The sex incidence of 13 percent males (nine out of 67 breast cancer patients) was reported in the study conducted by Otu (1989) in Calabar in southern Nigeria.

Prognosis

The survival rate for African American women with breast cancer is notably lower than the rate for white women (Erwin, Spatz, Scotts, Hollenberg, and Deloney, 1996). Major prognostic factors include lymph node status, tumour size and differentiation (Liu, 2000). Ulcerated lymph nodes or tumours, peaud'orange, fixation of cancer to the chest wall or total breast involvement are the major poor prognostic signs among breast cancer patients studied in Nigeria. Patients who exhibited these poor

prognostic signs had poor survival. By contrast patients without these signs had improved survival (Otu *et al.*, 1989). Prognosis was strongly related to the stage of diagnosis (Nab *et al.*, 1994). A marked improvement was observed with patients diagnosed with a localized tumour (Nab, *et al.*, 1994). In a study on long time prognosis for breast cancer in a Dutch cancer registry, result revealed that 52% of patients studied survived five years after diagnosis, 35% survived 10 years, 21% survived 20 years and 15% survived 30 years. Prognosis was considerably worse for patients with distant metastases at diagnosis (Nab *et al.*, 1994).

Early detection of the breast cancer is the key to successful treatment and survival (Anti-Cancer Foundation of South Australia, 2000) WHO regional office for Africa. Prognostic factors were summarised in the studies of Ijaduola and Smith (2000), on the pattern of breast cancer between white-American, African-American and non-immigrant West African women. In that study, they described African American and West African women as having three Ls (3Ls) in common: i.e. late state in seeking treatment, lower age at peak incidence with severe tumour burden, and consequently, lower survival rates.

In recent years, there is a marked increase in knowledge about the disease, genetic basis and the pathology. These changes are leading to revisions in the management of breast cancer with a positive impact on the prognosis (Adebamowo, *et al.*, 2000). African-American women still hold misconception regarding the etiology of breast cancer and fatalistic perspectives regarding breast cancer outcome.

Treatment Issues

There are three major treatment modalities for cancers namely surgery, radiation therapy and chemotherapy. Surgery alone offers a chance of cure for some types of cancers including breast cancer. Choice of surgical intervention depends on the degree of cancer spread. It is usually avoided for patients with advanced stage of the disease. Surgical treatments consist of lumpectomy usually indicated for early onset, simple mastectomy, modified radical and radical mastectomy. Others include, Oopherectomy, adrenalectomy.

Radiation therapy is often used in combination, but the technique requires sophisticated equipment and skilled therapists. The use of chemotherapy e.g. tamoxifen is often used in breast cancer treatment. Chemotherapy contributes to the length of survival and possible cure. Unfortunately, these drugs are usually very expensive and require close supervision by skilled health workers (Auinn *et al.*, 1995). Psychotherapy to reduced anxiety, depression and increase better adjustment thus reducing cost of care are often used to complete full treatment of breast cancer patients.

Health Seeking Behaviour

In most parts of the world, the majority of cancer patients present with advanced diseases. Advanced stage of breast cancer diagnosis had been reported worldwide (Facione and Giancarlo, 1998). In their study on how women decide whether and when to seek an evaluation for self-discovered symptoms among Anglo-Latina and African-

American women, the major predictors of increased likelihood of advanced disease at diagnosis included; incorrect risk estimations and symptom attributions, reluctance to consider the threat posed by the symptoms, failure to tell another person, fear of abandonment by male partners, refusal of treatment due to poverty, reliance on alternative healing, concerns about over-whelming family resources and extreme modesty which inhibited women from obtaining a physical examination. The majority of those patients were incurable by the time their disease is diagnosed (WHO, 1996). This scenario is very typical of African countries where most breast cancer patients seek hospital treatment when the disease is far advanced, thus leading to a poor prognosis (Pearson, 1963; Otu, 1982; Ekenem *et al.*, 1985).

Prevention and Control

Interventions that offer preventive or prophylactic protection from diseases are specific protective behaviours, whereas efforts to identify diseases in an asymptomatic stage when the disease can be treated more effectively and cheap is early detection and prompt treatment. In breast cancer with no known primary prevention, early detection is the primary method of decreasing mortality. Delay diagnosis in breast cancer had been estimated to reduce prospects of long-term cancer survival by 10-20% (Spiegal, 1996).

Using modern technology, breast cancer can often be detected at a very early stage of development, when the chance of cure is highest. The key to cure is early

detection and prompt treatment (Ransome Kuti ,1992; Liu, 1999; Anti-Cancer Foundation South Australia, 1999).

Breast cancer screening is the application of a procedure to asymptomatic woman for the purpose of detecting unsuspected breast cancer at a stage when early intervention can affect the outcome (Guideline Alberia Clinical Practice, 1999). There are three types of procedures for early detection of breast cancer namely mammography, clinical breast examination and breast self-examination.

There are several arguments for and against mammography screening in the literature. On one hand, mammography is less sensitive for women in their forties than for older women (Kerlikowske, Grady, Barclay, *et al.*, 1996). The probable reason is the denser breast tissues of women in their forties. On the other hand, mammography is efficacious in women aged 50 years and above. Regular screening in this age group is estimated to reduce mortality by approximately one third (Tabar, Faberberg, Day, *et al.*, 1987).

Some experts have expressed concern over the theoretical risk of radiation-induced breast cancers, especially among younger women. It has been calculated that for every two million women aged over 50 years who have been screened by means of a single mammogram, one extra cancer a year after 10 years may be caused by the radiation delivered to the breast (Migliori, Borwell J. Johnson *et al.*, 1996). However, other experts are of the opinion that radiation risk of mammography to induce cancer is

generally considered to be negligible. The radiation dose delivered by mammography is lower than that of an ordinary chest X-ray (Mettler, Upton, Kelsey *et al.*, 1996).

Another potential problem associated with mammography is an over diagnosis of breast cancer. Some of the small well differentiated invasive cancers and some in situ cancers that are detected by screening would most certainly not have caused symptoms during the patients' lifetime (Esan, 1997). Annual mammogram is recommended for women between ages 40 - 49, who are at risk as well as for all women aged 50 - 75. High-risk women should obtain a baseline mammogram between ages 35 - 39, while low risk women should obtain at age 40 (Howe, 1981).

Several factors affecting acceptance of screening recommendations include; recommendation from a physician, which is the strongest positive stimulus for women. Other factors include age, being younger (40-49) and older (70 plus), socio-economically disadvantaged women, limited contact with physician, single marital status, unemployed and retired, country of birth, lower educational attainment, and rural residence (Dodd, 1993; Maxwell, Parboosingh, Kozak, Desjardins-Denault, 1997; Gentleman and Lee, 1997). Most of these restraining factors identified are applicable for most developing countries including Nigeria. Variables that significantly predict mammography utilisation included perceived barriers, mammography suggested by health workers/professionals and medical doctors (Champion and Menon, 1997).

Recent thoughts about mammography recommend that it should be simple to apply, cheap, affordable, easy to perform and highly specific and sensitive in detecting

disease. Unfortunately, mammography is expensive, requires high technology, special film, dedicated processing and highly trained radiologist to interpret the films. It detects only 95% of all breast cancers (Harris, *et al.*, 1992).

Black women consistently show lower use of breast cancer screening services than whites. Most whites tend to seek and attain health care services, more than other groups. Studies show that reasons for under-utilization of breast cancer screening among black women include low level of knowledge, negative attitudes beliefs (Ramirez *et al.*, 2000). This behaviour can be modified. For example, a study conducted by Njah, Ben-Ahmed, and Marzouk (1994) among a segment of the Tunisian population showed that most women would like information about cancer and that the majority are in favour of screening. A similar study conducted by Erivin *et al.* (1999) in which churches and cancer survivals were used to promote early detection activities, demonstrated that intensive community based, culturally sensitive educational programmes incorporating the spiritual component of the faith community can positively influence breast cancer screening behaviours among rural under-served African-American women.

Nevertheless, the increasing incidence and importance of breast cancer in most developing countries demand that alternative approaches be explored and developed. Literature abounds to show that in the absence of screening mammography, physical examination can achieve 70% reduction in the breast cancer (Miller, 1992). Women need to know that BSE and physical examination by trained professional are important

in detecting breast cancer early. Routine physician examination by a medical professional should be done every three years starting from the age of twenty to thirty nine (20 - 39). As from the age of forty, when breast cancer becomes a more common occurrence, yearly breast examination is recommended. This yearly practice should continue even after menopause.

Breast Self-examination

Breast cancer had often been described as the most self-discovered tumour. Regardless of the frequency of any method of examination, the majority (80%) of tumours were first detected by the patients (Ruby, Senie, Paul, *et al.*, 1981). BSE had been widely promoted in cancer control efforts for some time. BSE practices should begin at age 30 and it should be performed monthly with suitable time determined by the menstrual status. Pre-menopausal women should perform BSE at least a week after the onset of menstruation. The rationale is to allow the physiological changes of swelling and tenderness of the breast tissue prior to menstruation to resolve. Also at this period, breast examination is more comfortable and accurate.

The recommended frequency of BSE is monthly (see Table 2). Studies on patient education shows that linking breast examination with particular event in the life of patient for example, attendance of meetings lead to a more reliable compliance with the routine monthly BSE practice. There is evidence in Canada that both physical examination of the breast and BSE can contribute to the early cancer detection while in

New York, physical examination contributes substantially to detection especially women aged 40-49 years (Parkin, *et al.*, 1988).

A study to explore the relationships of physician evaluation and patient self-examination to local stage of disease, show a pattern of decreasing frequency of BSE with increasing age at diagnosis. The mean age at diagnosis of women who reported monthly BSE was 53 years, five years younger than those who never performed BSE, while the mean for women who did BSE occasionally was 56 years. In that study, common characteristics of patients who reported monthly BSE included: - being married, higher educational level, pre-menopausal status, family history of breast cancer, prior benign breast disease (Ruby *et al.*, 1981). A similar study undertaken in Tunisia to identify factors which might influence the practice of BSE revealed that age of women, educational level, spouse, source of information were most significant parameters (Ben Ahmed, Njah, Hergh, Mtire, Neffati, Liman, Marzonki, 1994).

In another study conducted by Lyons, Zhuk, Hunters, Bernard, Payne-Wilks, Roland, and Levine (2000), no association was found between depression variables e.g. feeling guilty, sad or blue and BSE. A common myth about BSE is that "the best time to perform BSE is while showering." If that is the only convenient place for women, it is better than not doing an examination at all. But finding irregularities early requires an intimate knowledge of one's breast including interior structure.

Table 2. Recommended intervals for breast cancer screening

Screening method	Age (in years) < 40	40-49	50-75
BSE	Monthly by age 30	Monthly	Monthly
Professional breast examination	Every three years from 20-39	Annually	Annually
Mammography: high risk patients	Baseline at 35-39	Annually	Annually
Low risk patients		Baseline at 40 (optional)	Annually

Source: Howe, HL (1981): Socio-factors associated with self-breast examination. American Journal of Public Health, 71 (3): 251-225

Wet soapy hands can make it more difficult to probe deeply. According to Maurer (2000) women need to examine the entire depth of the breast tissue. Again standing up is not the best position for examination. The best position to feel the breast tissue in the thinnest plan you can is lying down (Osuch, Anti-Cancer Foundation of SA, 2000). However, there is variation and inconsistency in suggested technique of doing BSE. Women are often confused (Austoker, 1994).

A study conducted in Russia, showed no difference at five years in the detection rate between women who were taught to examine their breasts and those who did not receive any education. Petr Skra Banek (1992) contradicts the conventional thinking

that early detection is of negligible value because efforts to influence the natural history of breast cancer have failed. He argued that women with breast cancer who survived for a longer time with breast cancer do so not because of the early diagnosis but because their tumours are of special biological type. He maintained that it is a fallacy that early detection automatically means better prognosis. An extensive literature supports the view that breast cancer is an incurable disease, regardless of the stage at which it was detected (Petr Skra Banek, 1992).

However, Indraneel Mittra in her paper argues that physical examination by health worker and BSE offer the best prospect in developing countries to achieve early detection. The reasons are not far fetched. Due to its simplicity and lower costs, BSE appear to be the most appropriate method for early detection of breast cancer in developing countries. However, strong motivation is required together with the recognition that the disease is a strong hazard. Despite controversy surrounding the effectiveness of BSE in reducing mortality, most health workers and voluntary cancer organizations advocate BSE.

Breast self-examination is recommended for the early detection of breast cancer in European Code against Cancer. Evidence from North America suggests that there is reasonable public awareness of its importance, but compliance with regular BSE is low.

A study conducted in North America on attitudes to BSE showed that each country had a cancer organization giving information on BSE. The practice of BSE was recommended in most countries and "breast awareness" in others, while few did not

recommend BSE. Most (54%) women studied reported that they never practised BSE, 8% practised regularly (monthly) and 36% practised it occasionally. Also attitude towards BSE was a significant predictor to BSE practices (Wardle, Steptoe, Smith, Groll-Knapp, Koller, Smith, Brodziak, 1995).

In another study to identify variables associated with breast cancer screening behaviours of mammography utilization, BSE among low income African-American women revealed that perceived susceptibility, benefits, confidence, knowledge barriers and access to a regular physician were among variables that significantly predicted either frequency or proficiency of BSE (Champion and Menon, 1997). However, reports show that more African-American women than white women reported monthly BSE, while more whites than African-American women reported having had a previous mammogram (Roberson, 1997). A study on breast self-care practices among women with primary relatives with breast cancer revealed that women used breast self-examination as a means of gaining control over their feelings of the threat of breast cancer (Chalmers and Luker, 1996).

BSE is a feasible, cost-effective screening method that women can undertake if properly trained. Women can detect 95% of breast cancers. A reduction of 18% in mortality from breast cancer may be attainable by this means (Foster and Costanza, 1984).

In several descriptive studies of women's beliefs, attitudes and practices of BSE, the common findings were that women seem to be aware of BSE, but not well-informed

about specifics on how to do it. Their attitude towards the practice of BSE is positive but have low confidence in their ability to perform it. Howe (1981) found that the perceived breast cancer risk is not associated with BSE frequency. Women generally believe they are low risk to breast cancer.

Studies of associations of variables and BSE frequency show that in a sample of white, mostly married, well-educated women the frequency of BSE practice was associated with age, educational background, knowledge, attitude, modesty, social influence, preventive health orientation (Howe *et al.*, (1981). In a breast cancer-screening programme, African-American women distrusted "clinics" and preferred being examined by "their own" or a private physician (Williams, Abbott, Taylor, 1997). The cultural modest behaviour typical of African is often identified as major predictors to subjecting self to BSE. Interventions aimed at earlier detection of breast cancer should therefore address the belief or assumptions held by women.

Factors Influencing BSE

As mentioned, breast cancer is more common in African-American women than whites. Yet, African-American women are less likely to detect breast cancer at its early stages through BSE. In a randomised community trial of a breast self-examination skills-building intervention among inner city African-American women, it was found that performing regular BSE was most closely associated with having received any formal BSE instruction. The study also shows that BSE skill building can effectively

increase use of BSE in low-income African-American women who face multiple and competing health risks (Kalichman, Williams, Nachimson, 2000).

Research show that most women do not practise BSE for a variety of reasons including the following:

1. Anxiety about finding lumps. Regular practice of the technique can in itself cause considerable anxiety in women because of possibility of eventually finding something suspicious. This is further compounded by the state of uncertainty about the benefits of breast examination.
2. Lack of consensus on the method of BSE. There is no consensus on what constitutes competent BSE, most experts have suggested monthly for the frequency of examination based on menstrual cycle despite the fact that most women develop breast cancer at post-menopausal period.
3. Variation and inconsistency in suggested techniques i.e. in front of mirror, in the bathroom, or lying down often confuse women.
4. Perceived self-efficacy in performing BSE. Some women are not willing to perform BSE because they perceive the technique to be complicated and they have little confidence in their ability to do it correctly (Austoker, 1994).

The disadvantages of BSE are summarised as follows:

(1) Many false positive results (may be an age specific effect),

(2) Many women are investigated for benign lesions,

(3) May give rise to unnecessary anxiety,

(4) Worry about finding lumps that may or may not be cancer,

(5) Guilt about not doing it at all,

(6) Guilt about not doing it promptly,

(7) Reward for excellent BSE is a disease, which is also perceived as a negative outcome.

BSE as currently practised leads to women being aware of lumps but without having sufficient knowledge of the other signs and symptoms to watch out for (Austoker, 1994). Some experts believe the BSE could be made more acceptable to women if it was changed from that of regular ritualistic exercise to one in which breast examination was built into woman's life experiences.

The sensitivity of breast self-examination using data from the cancer detection demonstration project was estimated to be 26%, indicating high percentage of false negative results was high. By contrast, mammography yields estimated of between 80-90%. Similarly it has been argued that women who found asymptomatic benign breast lesions through BSE are exposed to unnecessary anxiety and unnecessary medical investigations. Consequently, such women may delay presentation of a further lump on the basis of their past experiences (Austoker, 1994). The fact remains that the lesser evil of unnecessary medical investigation would be preferred to having to deal with advanced stage of breast cancer in terms of cost and disease prognosis.

Mass screening for primary breast cancer could be an effective measure in the control of breast cancer. In an intervention study conducted by Nzarubara (1999) in

Uganda, after intervention, all the participants knew the risk factor. The health seeking behaviours greatly improved and over 90% could describe BSE satisfactorily (Nzarubara, 1999).

Knowledge and beliefs about breast cancer, screening and self-efficacy in performing breast self examinations are important components in an educational programme aimed at increasing participation in breast cancer screening (Adderley-Kelly and Green, 1997). These studies go to illustrate the possibility of effective health education intervention with positive care seeking behaviours in similar environment like Nigeria.

Beliefs, Perceptions and Attitudes to towards Breast Cancer

A cross-sectional survey of a sub-urban population of Western Nigeria on knowledge, belief and attitudes revealed that knowledge about the risk factors for breast cancer and perception of risk factors were low (Ajayi and Adebamowo, 1999). A study to explore the beliefs, attitudes and practices related to breast cancer and breast cancer screening among African-American women, showed that fear was the predominant feeling expressed by the women. This fear was the primary reason for not engaging in breast cancer screening. In this same study, the women perceived that violence caused breast cancer; others discussed injury and sex as causing breast cancer (Phillips, Cohen, Moses, 1999).

The belief that breast cancer can be caused by an injury to the breast is erroneous. What is true is that an injury will be the stimulus that results in discovery of a tumour. Injury to the breast causes one to pay more attention to the breast; but trauma does not lead to cancer. "The hypothesis would be that cancer comes from damage to cells" according to Louise Brinton, of the National Cancer Institute. However, what is known about etiology of breast cancer does not say that it starts from injury.

The attitude of the African-American women toward breast cancer is that it is seldom discussed within the African-American community. Consequently, this secrecy within the African-American community often leads these women to view breast cancer as white women's disease. The general outlook from literature is that there is low knowledge about risk factors as well as poor perception about breast cancer among the African women. However, those who perceive themselves at risk of getting breast cancer are also more likely to have a clinical breast examination and undertake the recommended BSE (Ajayi *et al.*, 1999).

In a qualitative study among older women's illness representation of cancer pointed out some common beliefs among them to include –

1. Screening is not necessary if you do not have any symptoms (Lane et al, 1994)
2. Someone would know if he/she has cancer (Salazar and Carter, 1994).
3. People will rather not know if they had cancer (Calnan, 1984).
4. A woman who believes that cancer is caused by stress may perceive that she does not need to be screened if not under stress.

5. Cure may be pertinent as a rational for screening for early detection.
6. Cure component is an equivalent to perceived benefit (Savage and Clarke, 1998).

According to Anti-Cancer Foundation of South Africa (SA) (1999), there are 10 myths or perceptions about breast cancer. One is that "breast cancer doesn't run in my family, so I don't have much to worry about". You may have slightly less cause for anxiety, but more than 80 percent of breast cancers occur in women with absolutely no family history of the disease. Indeed, the main risk factor is being a woman, says Chris Corcoran, executive director of the Maurer Foundation for Breast Health Education in Cold Spring Harbor, New York. The family member affected and time of occurrence determines the relationship between breast cancer and family history. If a first-degree relative (mother, sister) had cancer in one breast, and she became ill *after* menopause, then your chances are one in seven, only slightly higher than the one-in-eight risk all women face. But if a first-degree relative had the disease in both breasts before menopause, your risk of also developing cancer could be as high as 80 percent.

The second myth is that "people, who had a negative mammogram, don't have to be concerned for a while". Although mammograms can detect a tumour long before you can feel it, they can have a high rate of false negatives, thus creating a false assurance that there's nothing wrong. The danger may be particularly great for pre-

menopausal women: X-rays work by showing a contrast between a dense object (a tumour) and a less dense area (such as fat tissue), but younger women's breasts tend to be denser, making it more difficult to detect a tumour. This is one of the reasons why health workers recommend that women examine their breast every month even if they have just received a clean bill of health from your radiologist. "A third of the cancers I see," says Karen Kostroff, M.D., chief of the breast service at Long Island Jewish Medical Center in New Hyde Park, New York, "are discovered by the women themselves." A third myth is "that the best time to do a breast self-exam is while showering". If that's the only convenient place for you, it's better than not doing an examination at all. But finding irregularities early requires an intimate knowledge of your breasts' interior structure. Wet, soapy hands can make it more difficult to probe deeply. "Breasts are three-dimensional," says Virginia E. Maurer, M.D., a breast surgeon at Winthrop University Hospital in Minneola, New York, USA "and women need to examine the entire depth of the breast tissue, starting at the skin surface, then pressing midway through the breast tissue, and finally feeling all the way down to the chest wall." Also, standing up isn't the best position for the examination. "You want to feel the breast tissue in the thinnest plane you can get, which is lying down," says Dr. Osuch.

The fourth myth is "If I find a lump, there's a pretty good chance it's breast cancer". Even if a doctor is suspicious enough to order a biopsy, chances are heavily in favour of a growth being benign, especially in younger women. "In women under 35,

most lumps turn out to be benign, solitary tumours called fibroadenomas," says Dr. Kostroff. As women get into their forties, fluid-filled cysts become more common, but among premenopausal women, at least eight out of ten lumps are not cancerous.

The fifth states "If I do get breast cancer, a mastectomy gives me my best shot at survival". A woman may make the psychological leap of assuming "the more I suffer, the more I deserve to be cured" - a natural reaction to a frightening disease. Natural, but misguided. "Women don't die of this disease because it comes back in the breast," points out Dr. Abrams, "but because of a spread to the bones or liver."

If the cancer hasn't spread before surgery, a mastectomy and breast-preserving lumpectomy, followed by a course of radiation treatments offer the same outcome, he says. "And if it has already spread, you need other treatment - chemotherapy and/or tamoxifen - to cure the distant metastasis."

However, literature abounds to show that culturally appropriate cancer education programme is able to change behaviours by meeting the beliefs of women rather than attempting to change their beliefs (Erwin, *et al.*, (1996). A theory based intervention witness project was designed to provide culturally sensitive messages from African-American breast cancer survivors in churches and community organisations, the outcome measures were sensitive, as behaviours of women were changed by this strategy (Erwin, *et al.*, 1996).

The sixth myth is "I don't drink or smoke, and I eat a low-fat diet, so my chances of getting breast cancer are practically nil". You may have improved your

odds, but adopting these healthful habits won't give you any guarantees, says Jacques Benichou, of the National Cancer Institute, SA. Even more firmly established risk factors - early first menstruation, first child at a later age, genetic predisposition - aren't found in all cases. "Fully half of breast cancer cases have *no* known risk factors," says Dr. Benichou.

The seventh states, "If a lump hurts, it's not cancerous". Usually that's the case - in fact, one of the key signals that can differentiate a cancerous tumour from a benign cyst or other harmless growth is pain. But don't fail to have a lump checked just because it's painful. "My doctor told me if it hurts that much, it's probably an infection in the lymph system," said Donna Riddick of Seattle, who, at age 34, tried to ignore the intermittent pain in her breast. Finally, after a year, she underwent a biopsy and then had a cancerous tumour the size of an almond removed. Pain occurs in fewer than 10 percent of cases, says Jeffrey Abrams, M.D., of the National Cancer Institute, "but it does happen."

An eighth myth expresses the belief "Underwear bras can cause breast cancer". "Dressed to Kill", a provocative book that came in 1999, advanced the notion that bras constrict the lymph system, causing breast cancer. This, said the authors (a husband and wife team of anthropologists), explains the high rate of breast cancer in North American cultures and the low rate in less industrialized areas of the world. As evidence for their theory, the couple provided ostensibly scientific data showing that cancer sufferers were more likely to be bra-wearers. But cancer researchers don't put much credence in the

theory, arguing that the authors didn't adequately account for other cultural differences, including such relevant factors as diet and reproductive behaviour. More emphatically, Dr. Osuch says: "This is just another attempt to make women feel responsible for this disease. It's absolutely ridiculous."

The ninth myth is that "If you have lumpy breasts, you're more likely to eventually get breast cancer". At one time, doctors thought this might be the case, but now, it seems, there's no connection between the factors that cause most kinds of benign lumps and those that lead to cancer. One kind of benign growth, however, called atypical hyperplasia (abnormal proliferation of cells) could eventually become cancerous. But it's rare - only about 3 percent of all breast biopsies find this condition.

Finally, the tenth myth is "Breast cancer can be caused by an injury to the breast". Sometimes an injury will be the stimulus that results in discovery of a tumour - an injury causes one to pay more attention to one's breasts - but trauma doesn't lead to cancer. "The hypothesis would be that cancer comes from damage to cells," says Louise Brinton, of the National Cancer Institute. "But what is known about the etiology of breast cancer says this isn't the way it starts.

Summary of Literature Review

Cancer accounts for 8.6% of 51 million deaths occurring in the world each year (Hakulinen *et al*, 1986) while cancer problem was commonly thought to be only in developed countries (Ojofestimi 1998) Among women, breast cancer is a major threat

to their health. An increasing incidence of the disease is reported world wide, including Africa, where it was previously thought to be relatively rare.

Adoption of western life style, effects of urbanisation, dietary changes were some of the identified factors (Newton et al, 1996, Atoyebi et al, 1997)

In Nigeria, majority of those affected were young sexually active age group (Amir et al, 1996, Adeniyi, 1999) Also cancer affects the right breast most frequently than the life. (Adeniyi 1993, Adelusola etal 1996, Chiedozie 1985, Atoyebi et al 1997) while mastectomy is the major treatment choice however many patients resent this procedure. (Amir et al 1996).

Despite the advancement in the treatment of breast cancer, the cause of the disease is unknown. However several risk factors are implicated for breast cancer including: diet, high in fat, genetic compositions, age, having not breast fed a baby, nulliparity, having first baby after 35 years of age, strong family history of breast cancer, presence of a lump, becoming fat, etc.

In many developing countries, the survival rates of women with breast cancer is notably lower when compared with white women. (Erowin et al 1996) This trend had been attributed to the stage of diagnosis, prognosis was considered worse for patients with distant metastases (Nab et al 1994). From literature review, Late presentation is the Hallmark of most breast cancer patients especially in Nigeria's

The major treatment modality are surgery, radiation therapy, and chemotherapy while the major prevention and control strategy is early detection through

mammography, clinical breast examination and breast self examination. Of these three procedures, BSE is the most affordable, feasible strategy often recommended for developing countries including Nigeria. Knowledge, and beliefs about breast cancer screening, and self-efficacy in performing BSE are important elements that increases the practise of BSE while several myths, or misconceptions further prevent the performance of BSE among women.

Conceptual Framework

This study adopted three theories and models to aid understanding of BSE practice. These include the Health Belief Model (HBM), Social Learning Theory (SLT) and the PRECEDE Framework, which are explained below.

Health Belief Model

The HBM was developed by Rosenstock and Becker (1974) to explain why people did not use health services (health seeking behaviour) but has been applied to many aspects of health behaviour such as screening for cancer and performing self-breast examination.

The model (Figure 1) examines the extent to which an individual perceives a problem as having serious consequences and a high probability of occurrence. The model assumes that the behaviour exhibited is determined by four sets of variables i.e. whether the individual: -

- Believes that he/she is susceptible i.e. that the health problem e.g. if a woman believes that cancer can affect her personally rather than the society as a whole.
- Perceives the problem as serious i.e. feels that the problem could lead to death or other serious outcomes if recommended actions were not taken.
- Is convinced that treatment or preventive activities are effective and inexpensive i.e. taking the recommended action would prevent the health problems and the benefit of taking action would outweigh the disadvantages.

- Receives a cue to take health and preventive or promotive actions through health care providers, mass media, information from friends, significant relations, etc. Where these factors are present and positive, there is likelihood of individual taking recommended preventive health behaviour of screening and self-breast examinations.

It is vital to note that personal susceptibility to a disease condition as well as perceived seriousness varies from person to person. The perception is also dependent on the level of knowledge about the health problem - breast cancer, educational attainment, cultural values, beliefs etc. This Roses Stock referred to as modifying variables.

These modifying factors impinge on the level of knowledge and also awaken or subdue threat to take recommended action. While modifying factors enable the individual to evaluate the outcome expected in relation to the constraints. Where the benefits clearly outweigh the constraints, the individual is motivated to take recommended actions. Individuals must be able to recognize certain important cues that prompt him or her to take necessary action. Health care seeking behaviour of women in self-breast examination and mammography is illustrated in figure 2. In this figure, the individual's perception will depend on modifying variables like educational attainment, knowledge about BSE and mammography, beliefs, and family planning practices, age, as breast cancer is more with pre-menopausal and post-menopausal women, sex, and religion. Also age, according to Rogers and Shoemaker (1971) has a modifying effect on people's perception.

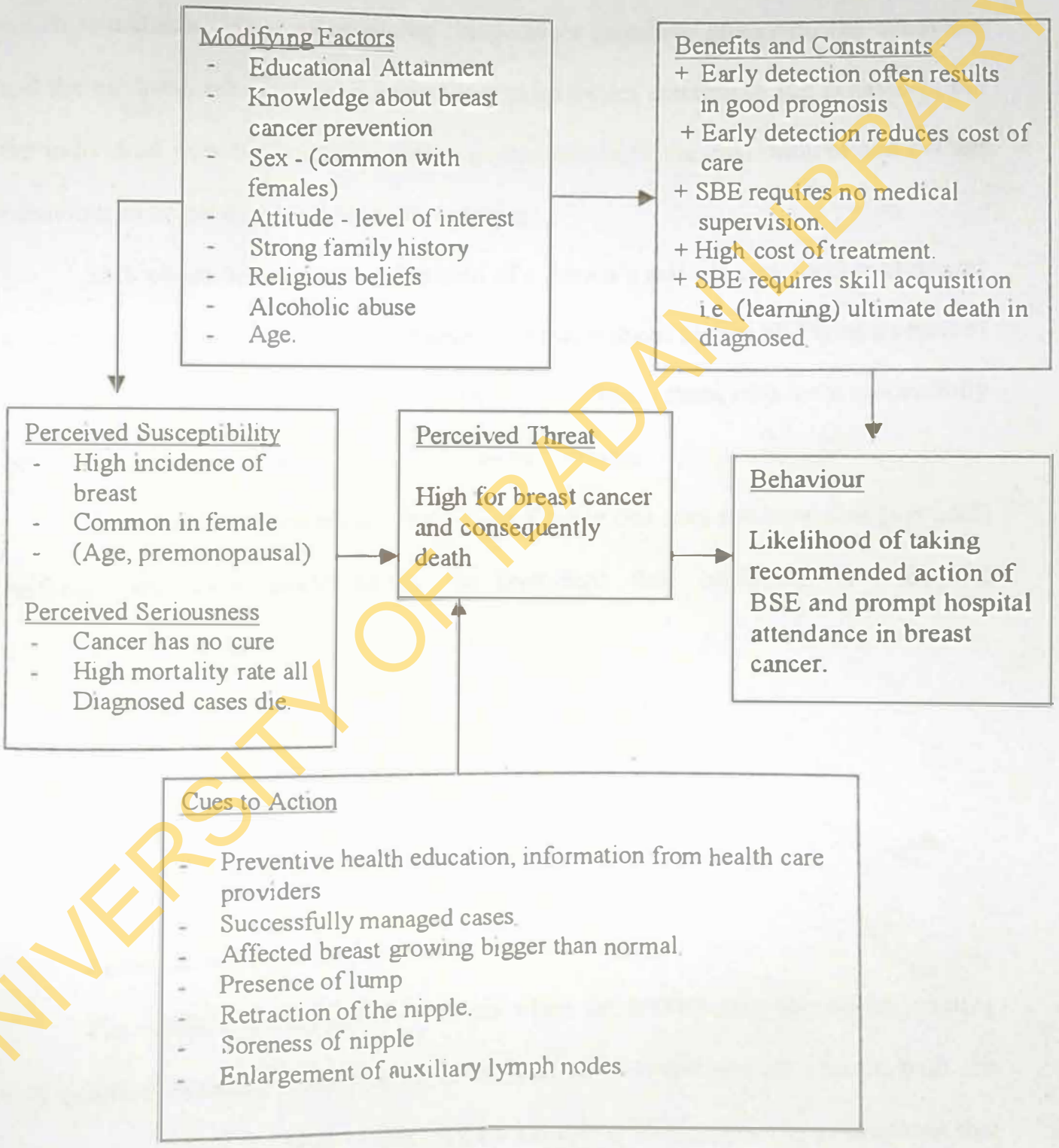
Another level of perceived self susceptibility and seriousness of high incidence of breast cancer among women of pre-menopausal, high mortality rate as all diagnosed cases die

and cancer has no cure. One factor that is responsible for wrong perception of seriousness of breast cancer is low level of awareness and knowledge of breast cancer. It has no cure and patients will usually die once diagnosed.

Perceived benefit of the action is another important determinant of likelihood of undertaking recommended action of self-breast examination practices. Sebanjo and Kalu (1989) reported greater clinic attendance among women who believed that early detection of cervical cancer could reduce the adverse effect of the disease. In the report, 89% of the patients who believed that early detection reduces complications attended screening regularly, while 13% of patients who believed that once diagnosed, it could not be ameliorated did not attend regularly.

Other perceived benefit includes, early detection often results in reduced cost of care and increases chances of longer survival. However, some of the constraints to taking recommended action include; perceived low confidence in performing self-breast examination (SBE) that requires learning and prompt hospital attendance, high cost of hospital treatment, perception that cancer is not curable. Whereas cues to action in breast cancer include: health education from health care providers, presence of lump in breast, successfully managed cases, nipple retraction, enlarged axillary lymph nodes. These variables will lead to high-perceived threat of breast cancer and consequently increase the likelihood of taking recommended action. The HBM was applied in this study by requesting subjects to respond to some attitudinal statements as listed in 25 in the questionnaire (see Appendix B).

Figure 1 : The health Belief Model Applied to BSE Practice



Social Learning Theory

Bandura (1977), Rotten (1954) proposed the Social learning theory (SLT), which is a triadic relationship among the person's cognitive processes, the behaviour and the environment. The environment to a great extent determines the behaviour, but the individual uses his cognitive ability to interpret both the environment and his/her behaviour to come up with favourable outcome.

SLT views behaviour as a function of a person's self-efficacy (self-confidence) and outcome expectations. One can become confident about his/her ability as a result of past experiences with the behaviour or observation from others who have successfully performed the same behaviour i.e. observational learning.

Observational learning is central to SLT when one sees someone else (a model) perform behaviour; one's ability to reproduce that behaviour is enhanced (Environmental or observational learning).

Bandura divided the observational learning into four, namely:

1. Attention to the model.
2. Retention of what was observed.
3. Reproduction of the behaviour.
4. Reinforcement of the behaviour.

The reinforcement can be observed when the learner sees the model meeting with positive outcome from his/her behaviour. Also reinforcement can be with the learners themselves or from others. Social Learning Theory (SLT), emphasizes that

through the process of self efficacy assessment, the person judges his or her own level of skills and responds to the question "Can I do it?" and "How well?" "Will it pay off?", if the answers to these questions are "yes", then the behaviour is likely to occurs. Application of this model is illustrated in figure two.

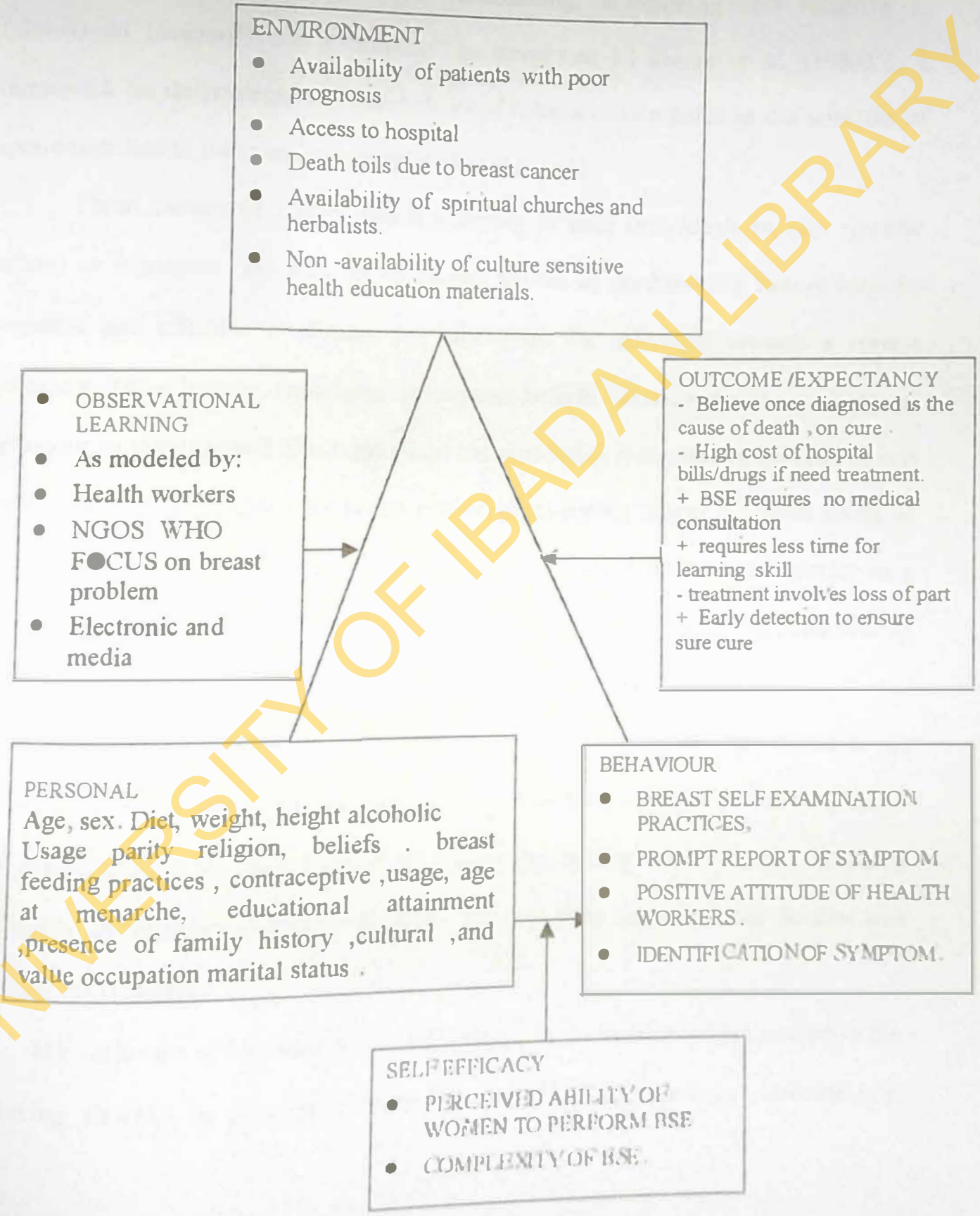
The performance of self-breast examination practices and prompt self-referral in breast problems (behaviours) is a function of the women's self-efficacy (self confidence) i.e. ability to perform S.B.E. practices and outcome expectancy. For example, BSE requires no medical consultation, less time for learning skills and early detection often ensures effective management.

Observational learning in BSE practices as modelled by health workers, electronic media, and influence of friend, and mother-in-law, husband and poor prognosis of breast cancer problems. Environment largely determines or causes behaviour to occur. The individual uses his cognitive processes to interpret both the environment and her behaviour. In breast problem, the environmental influences include: availability of spiritual churches and herbalists, non-availability of culture sensitive health education materials, poor access to hospitals, availability of patients with poor prognosis.

The self-efficacy refers to the confidence that women have in performing breast self-examination also depends on the complexity of SBE procedures and their ability to do so. Enhanced self-efficacy leads to improved behaviours, motivation, thinking patterns and emotional well being.

The demographic variables associated with breast cancer are age, sex, and post/pre-menopause. Others are parity and diet (See figure 2). The anticipated outcome of behaviour and value expectancies as highlighted in figure 2, e.g. diagnosis of breast cancer means death, high cost of hospital treatment. SBE practices require no medical consultation, treatment involves loss of part etc, will determine to a great extent whether behaviour will occur or not. The SLT was applied in this study by requesting subjects to determine the extent to which they were confident in performing BSE as listed in question 24 in the questionnaire (See Appendix B).

Figure 2 Application of Social Learning Theory to BSE Practice



PRECEDE Framework

PRECEDE an acronym for "Predisposing, Reinforcing and Enabling in Educational Diagnosis and Evaluation" as developed by Green *et al.* (1980) is a framework for determining key antecedents of behaviour as a guide to the selection of appropriate health intervention strategies (See Figure 3).

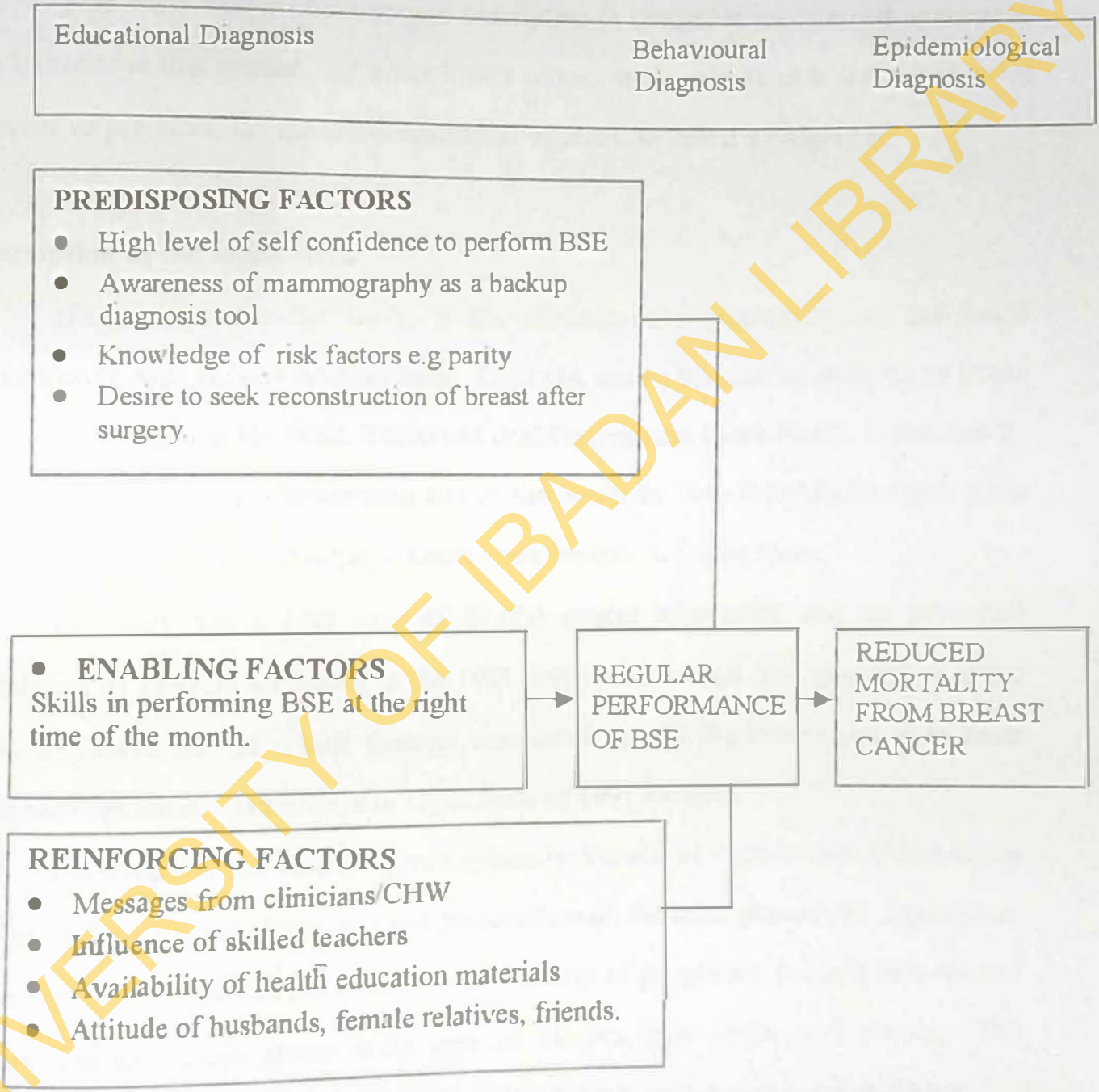
Three classes of factors which interplay to urge individuals to take specific actions or behaviour: the first set of factors known as predisposing factors include, cognitive and affective conditions that predispose the individual towards a certain behaviour. These include, knowledge, perception, beliefs, values, and attitude, about the behaviour in question and about any proposed preventive measures. In preventive self breast examination practices for breast cancer, predisposing factors e.g. high levels of self-confidence to perform self breast examination, awareness of mammography as a alternate diagnostic tool, knowledge about the risk factors e.g. age, parity, educational level may predispose one to perform BSE or use mammography.

The enabling factors provide conditions that make it possible for women to act on their knowledge, perception and values. For instance, the skills in performing breast self- examination at the right time of the month and having time to do so. including availability of financial resources to settle hospital bills are important factors that influence the behaviour.

The influence of the behaviour and attitude of significant others comprise the reinforcing factors. In preventive behaviours of BSE and prompt self-referrals.

reinforcing factors include: message from health workers or community health workers, influence of skilled teachers on BSE procedures, types and availability of health education materials on display at strategic places e.g. health centres, churches, mosques, public places, streets, etc. The three variables, predisposing, enabling and reinforcing factors help to guide the selection of appropriate health education strategies (Educational Diagnosis).

FIG 3. THE PRECEDE FRAME WORK A PPLIED TO BSE PRACTICE



CAHPTER THREE

METHODOLOGY

Research Design and Scope

This study was exploratory and descriptive in design. It was limited in scope to the knowledge that women had about breast cancer, their attitude to it and the reported preventive practices, i.e. the self-examination of breast to detect a lump in it.

Description of the Study Area

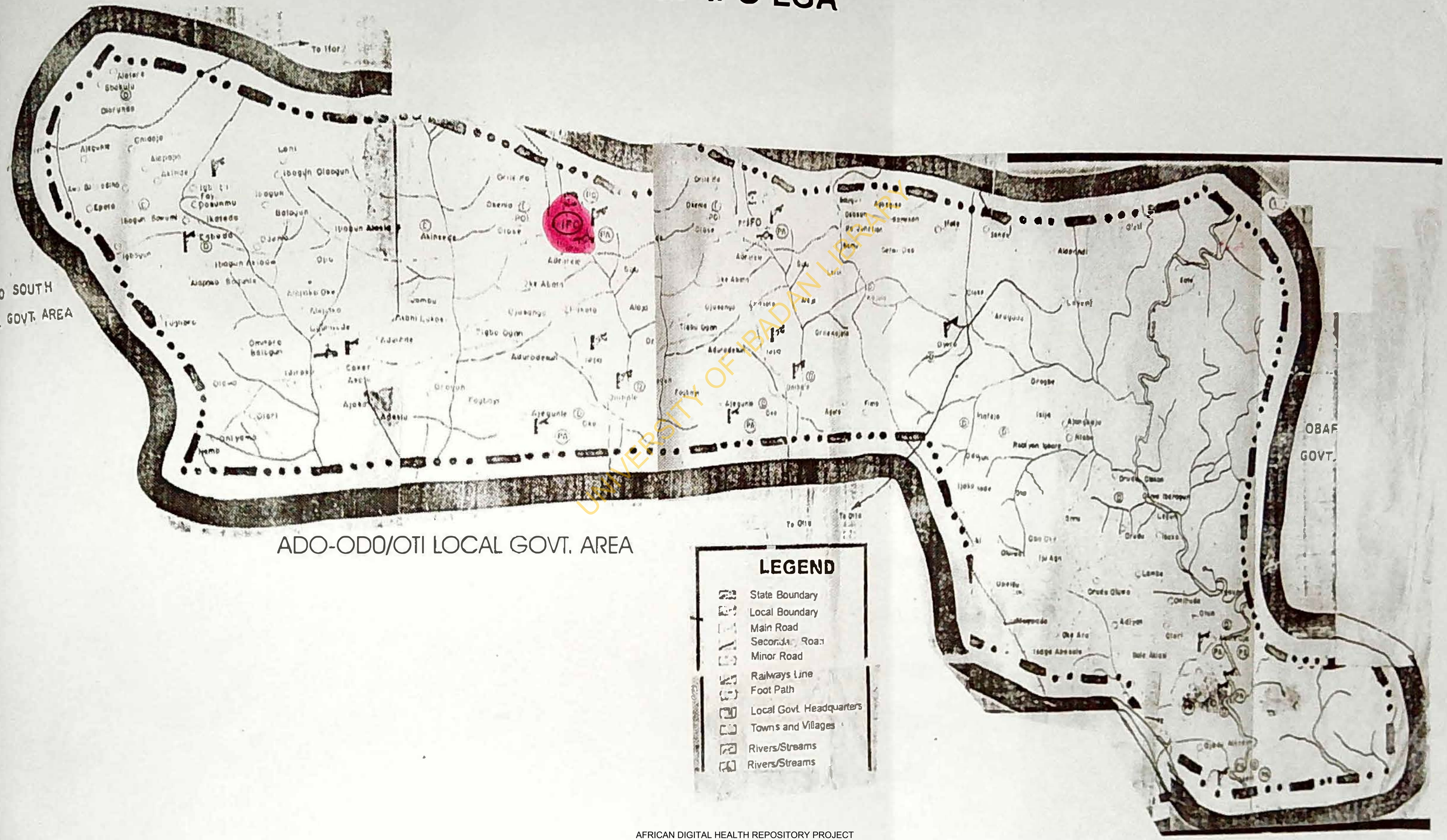
Ifo, the site for the study, is the administrative headquarter of Ifo Local Government Area (LGA) in Ogun State. The LGA shares boundaries with Yewa South Local Government in the West, Ewekoro Local Government in the North, in the East by Obafemi-Owode Local Government and in the South by Ado-Odo/Ota in Ogun State and Koshofe, Ikeja and Ifako-Ijaiye Local Governments in Lagos State.

Ifo LGA has a land area of 82,000 square kilometres and an estimated population of 186,000 according to the 1991 population census. The population of the town is 52,448 out of which females accounted for 50.9%(Provisional data from National Population Commission of Ogun State of 1991 Census).

The people of Ifo town are predominantly Yoruba of Egba origin. Other ethnic groups such as Ibo and Hausa co-exist peacefully with the local population. Agriculture is the mainstay of the local economy. The majority of people are peasant farmers and traders. The food crops grown in the area are cassava, yam, maize, and plantain. The major cash crops grown in the area are Kola nut, Palm kernel, Sugar cane, and Rice.

There is an urban tendency in the layout of the town because of its proximity to Lagos state. Due to limited accommodation and exorbitant rent in Lagos metropolis, many citizens live in Ifo but commute daily to work in different areas of Lagos. Also, due to the commercial nature of the town and its proximity to the border, immigrants especially Ghanaians reside there. A sketch map of the community is shown in figure 4

MAP OF IFO LGA



ADO-ODO/OTI LOCAL GOVT. AREA

IBADO SOUTH
LOCAL GOVT. AREA

Ifo Township can be divided into two areas namely "Ifo Core" and "New Ifo" areas. As in many cities in Africa, the core area of town is characterised by unpaved roads and congested buildings. The areas located in the core Abule-Ifo, Surulere, Ago-Ilorin, Ago-Ijaiye, Okesuna, Oloshe, Ape-bioloto, Olu-omo. By contrast, the new Ifo area is well planned with modern houses and access roads, the new area are Araromi, Sawmil, and Alaja Bungalow, Adereni Agasi area. With respect to leadership structure the recognised traditional ruler in Ifo is the Oku of Ifo. As in other Yoruba communities, the basic housing unit in Ifo is the traditional extended family compound, locally called agbole, each of which is controlled by a Baale, who is the eldest male in the compound. There are 14 Baales in Ifo and three political wards namely, Ifo I, Ifo II and Ifo III.

The town has adequate supply of pipe borne water, electricity, and telephone services. However, only a few major roads in the town are tarred, thus making many of them inaccessible especially during the rainy season. There are 12 primary and three public secondary schools owned and over 20 schools owned by individuals. The available health care facilities in the area are one general hospital, one primary health centre, approximately 15 private clinics and maternity homes.

Study Variables

The Health Belief model (Rosenstock, 1974) was used as the main conceptual framework for understanding women's willingness to undertake the recommended preventive health behaviour of BSE for breast cancer.

The independent variables explored in the study were:

1. The socio-demographic characteristics of age, educational attainment, religion, female parity.
2. Knowledge of breast cancer.
3. Beliefs of women about breast cancer.

The dependent variables were:

1. Women's perceived susceptibility of the disease.
2. Practice of breast self-examination.
3. Care seeking behaviour in breast cancer.

The Study Population

The study population consisted of women aged 15 to 70 years, who resided in Ifo at the period of the research. The choice of this group was aimed at including younger generation of women as well as the older generation. In Ifo, the indigenous women are predominantly petty traders and peasant farmers and a few civil servants. As with other Yoruba towns, the women in Ifo are the primary care providers in the family.

Sampling Procedures

The following procedures were adopted in recruiting women into the study. First, the town was divided into 14 clusters according to the areas of the town. Each cluster or sites consisted of about 6 streets in the Ifo core and about 10 streets for the "New Ifo" area At "Ifo core", the cluster areas included: Abule-Ifo, Surulere, Ago-Ilorin, Ago-Ijaiye, Okesuna, Oloshe, Ape-bioloto and Olu-omo areas. While at the "New Ifo" the areas are Araromi, Saw-mil, Alaja, Bungalow, Aderenle and Agosi areas.

Forty women were randomly selected from each of the eight areas in Ifo core resulting in the selection of 320 subjects. On the other hand, in the six "New Ifo" areas a maximum of thirty subjects per area were recruited, making one hundred and eighty subjects. The decision to recruit more subjects from the core area was based on the fact that it was more densely populated than the new area.

When the research team arrived at an area of the town, the home of the village health worker (VHW) or the baale was identified. The researcher then systematically selected every 10th house, until the required number for the area was completed. If a house was selected and there were more than one eligible subject in it, only one subject was recruited through balloting. If a house was selected and no legible subject was met, the interviewers made several visits to meet and select a subject from the house for interview. In all, 500 women aged 15 to 70 years of age were interviewed for the study.

The Hypotheses

Based on the variables, hypothesis were formulated and stated as null hypothesis as follows:

1. There is no relationship between women's knowledge of BC and their demographic characteristics.
2. There is no relationship between women's knowledge of BC and their practice of BSE.
3. There is no relationship between socio-demographic characteristics of women and the practice of BSE.

There is no relationship between BSE practices of women and their perceived self-efficacy to perform BSE.

Instruments for Data Collection

Two methods were used for data collection, namely. focus group discussion (FGD) and questionnaire.

Focus Group Discussion (FGD)

Four Focus Group Discussion (FGD) sessions were conducted among women to explore relevant issues to be covered in the questionnaire. The FGD guide (See Appendix A) consisted of questions relating to knowledge of breast cancer, practice of BSE and health seeking behaviour for the disease as well as beliefs and attitude about breast cancer. The questions were open ended to promote full discussion.

The FGD guide was translated into Yoruba, the local language widely spoken in the area to ensure adequate understanding by the subjects. The venue for the FGD included the church premises, houses of the village health workers. Dates and time for FGD were fixed in consultation with participants. After each session, refreshments and transport allowances were provided. The FGD gave the researcher several insights that guided the development of the questionnaire.

The Questionnaire

A 42-item questionnaire consisting of structured, closed and open-ended questions was developed. The questionnaire was divided into five sections for easy administration. Section A elicited personal information including age, education, marital status and ethnic group among others. Section B which explored respondents' knowledge level about breast cancer, incidence, risk factors, causes, signs and symptoms, self breast examination practices, management modalities and preventive measures that women can take against breast cancer. Section C measured respondents' beliefs about breast cancer. Thirteen statements on beliefs about breast cancer were formulated and respondents were requested to "agree", "disagree" or remain "undecided" about each statement.

Section D determined respondents' perceived self-efficacy in performing BSE. Five tasks related to BSE were formulated and the subjects were requested to determine the extent to which they were "very confident", "little confidence" or "no confidence at

all". Section D documented respondents' self breast examination practices, the frequency, techniques, what specific health action they took in breast problems. Also explored in this section was care seeking behaviour in breast cancer especially who they consult first or last including the reasons for their actions.

Section E documented respondents' access to health education, access in terms of availability, clarity of message and source. While question 42 sought to identify respondents' willingness to accept various treatment modalities in breast cancer problems as well as the health actions they would undertake if they discover any breast problem.

Administration of the Instruments

Ten female students undergoing training for the Community Health Officers Programmes and four male field workers from Pakoto Primary Health Centre were recruited and trained to collect data. The content of the training consisted of interpersonal communication skills, purpose of the study, data collection procedures, sampling method and ethical concerns. Interactive methods including discussion, role-plays were used for the training. Only 10 female community health officers and two male field supervisors were finally recruited for the research after the researchers became satisfied with their performance.

Four of the research assistants facilitated the group discussion. The questionnaire was administered during face-to-face interview over a period of five (5)

weeks. The investigator, two (2) field workers (supervisors), and 10 trained interviewers went out on field every week. Initially, each interviewer was restricted to complete only two questionnaires per field visit and as they become more proficient with the administration of questions, they were able to complete more questions per field visit.

The interviews were conducted in the homes of the subjects while the practice of BSE was determined through demonstrations by interviewees. Every interviewer returned the completed forms to the supervisor who verified them to ensure they were properly completed.

Data Management and Analysis

The FGD data were transcribed verbatim and subjected to content analysis and described in prose. All the questionnaires were collated after they were completed. Based on the responses from the questionnaire, a coding guide was developed. Data entry and analysis were carried out using EPI-INFO Software. Data are presented in frequency tables and diagrams were used to describe the variable. The chi-square test was used for testing the hypothesis.

Validity and Reliability

The following procedures were taken to ensure the validity and reliability of the survey instrument. First, a draft of the questionnaire was translated into Yoruba, the language widely spoken in Ifo, to ensure clarity and comprehension by subjects.

Secondly, the draft questionnaire was among 30 women in Pakoto, a comparable community to Ifo, to identify ambiguous questions and other potential problems with the questionnaire. Thirdly, a face-to-face interview was used in data collection. This approach was preferred to the self-completed interview because of the assumption that many women in Ifo are not literate and would therefore not be able to read questions in the questionnaire. Finally, research assistants were adequately trained for data collection. A pilot study was conducted to test the questionnaire. The interviewers administered the questionnaire in their homes; interviewers were asked to comment on the ease of completing the questionnaire, simplicity of the language and clarity of the questions asked. The pilot questionnaire was also analysed. The various comments were noted and appropriate changes reflected and inclusions were made e.g. the steps in performing self breast examination practices were included as it was the surest way to ascertain their skills in its performance. Thereafter, the final design of the questionnaire was made.

Ethical Considerations

Anonymity and confidentiality of patients were kept. Informed consent was sought from survey subjects by informing them that the data collected was for research purpose, that their participation in the study was voluntary. Subjects who requested for help and assistance on where to receive care for breast related problems were referred to go to the nearest health centre or Ifo General Hospital.

CHAPTER FOUR

RESULTS

The results of this study are presented in this chapter. Relevant statistical tests were used to test hypothesis formulated on knowledge, beliefs and breast self-examination practices of women for breast cancer. The presentation is divided into two sections namely; section one, which described the socio-demographic characteristics of the study population, breast cancer related knowledge and associated factors. Section two deals with the preventive health care practice of BSE among women for breast cancer.

Findings from the FGD

Knowledge about breast cancer

Most of the FGD participants have heard about breast cancer. They used several local terminologies for breast cancer including "jejere" swollen breast, "lobutu", "Niya-odaruko", "koroko"-"lobuto". The participants believed that breast cancer is curable only by a traditional healer and that early treatment is important for cure to be effective. The common problems affecting women in the community were vaginal discharge, "Eda" sperm ejection after intercourse, stomach problems, abortion, "after pains" – (pains after delivery), infertility, spiritual problems, breast problems and high body temperature. The women's major health problems included Fibroid locally referred to as

"Iju", breast engorgement especially in pregnancy, which often results in poor lactation, abortion, vaginal discharge and fever.

The participants had several perceptions of causation of breast cancer including the act of putting money inside the brassieres, having multiple sexual partners and having sex with animals. As one woman said "jejere is spread by using contaminated brassieres. This is the reason why it is not advisable to use okrika bra already contaminated by white people". Other said evildoers, witchcrafts and early marriage cause it. The incidence of the disease is believed to be high in sexually active persons. A few participants described breast cancer as hereditary and "a blood disease". The participants were of the view that cancer disease occurs in stages, viz' initial pain, swelling, followed by nipple discharge, then body temperature.

Practices related to BSE

FGD participants claimed that BSE is not a common practice among women in their area. Some participants described BSE as the act of detecting lump or objects in the breast. Others referred to BSE as early morning physical breast inspection. Enquiry into when BSE should be performed was also made and the women said this should start from puberty to menopause and from puberty until death, while the best period to perform BSE is when the breast is painful and hard. Participants believed that the preventive practices for breast cancer are personal hygiene, avoidance of putting money inside the brassieres.

Care seeking behaviours

Majority of the FGD participants stated that in the event of detecting any breast abnormality they would inform their husbands first and consult herbalists, churches and spiritual healers, health workers, in that order. The treatment modalities for breast cancer were also elicited. The majority felt that traditional healers are the only ones that can cure cancer while surgery was perceived not to be successful because patient eventually dies. Inadequate finance, preference to traditional healers and surgery were some of the identified factors identified by participants to influence their decision in care seeking in breast cancer. Concerning attitudes to breast cancer, subjects reported that breast cancer is infectious and that those affected are stigmatised and rejected.

Preventive Practices

Some participants believed that the preventive practices for breast cancer are personal hygiene, avoidance of putting money in their brassieres, belief that evil doers caused breast cancer. These findings were used to develop a questionnaire the results of which are presented below.

Survey Results

Demographic characteristics

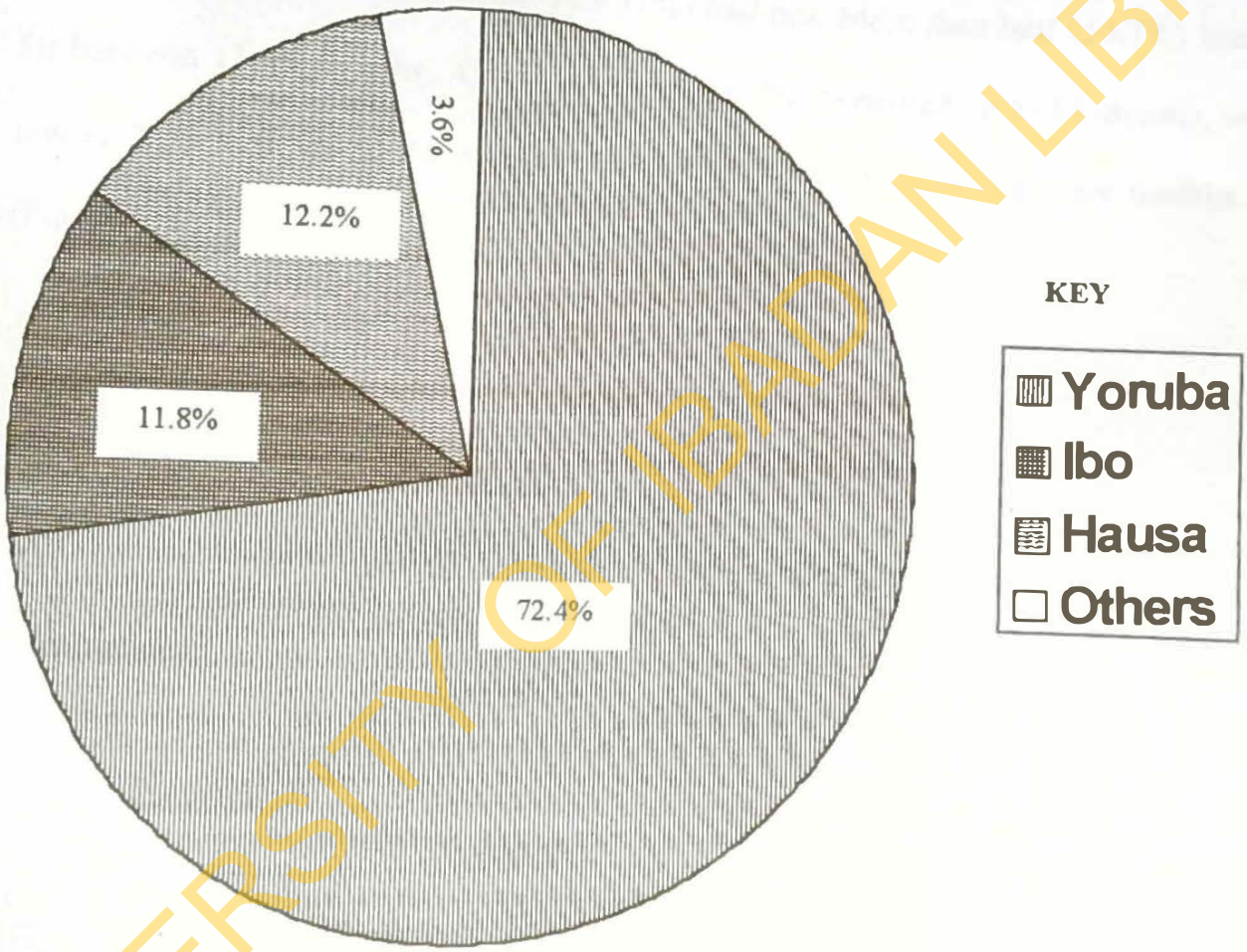
The ages, educational attainment, marital status, ethnic group and religion of the survey subjects are shown in Table 3. The majority of women, 176 (35.2%) were in the age bracket of 35–39years. This was followed by those aged 30–34years, 73(14.6%)

and 25–29years, 72(14.4%) respectively. With respect to educational attainment, about a quarter (26.6%) of the women had no formal education, 115(23%) had primary education, 83(16.6%) had secondary education and 87 (17.4%) had modern education and few 61(12.2%) had teachers college education. The majority of 361(72.2%) were married and few 66 (13.2%) had never done so. Concerning the religious affiliation of the subjects, they were mainly Christians, 286(57.2%) and Moslems 213(42.6%). The ethnic composition of the subjects is presented in figure 5. More than half of the subjects 362(72.4%) are Yoruba; other major ethnic groups included Hausa, 61(12.2%), Ibo 59(11.8%).

Table 3: Demographic Characteristics of women in Ifo

Age (in years)	Number	Percentage
15-19	3	0.6
20-24	51	10.2
25-29	72	14.4
30-34	73	14.6
35-39	176	35.2
40-44	64	12.8
45 and above	61	12.2
Total	500	100
EDUCATIONAL LEVEL	NO	%
None	133	26.6
Primary School	115	23.0
Secondary School	83	16.6
Modern School	87	17.4
Technical Education	4	2.8
Quaranic Education	17	3.4
Teachers Education	61	12.2
Total	500	100
MARITAL STATUS	NO	%
Single	66	13.2
Married	361	72.2
Separated	39	7.8
Divorced	20	4.0
Widowed	13	2.6
Co-habitation	1	2
Total	500	100
RELIGIOUS AFFILIATION	NO	%
Christianity	286	57.2
Islam	213	42.6
Traditional	1	2
Total	500	100

Figure 5: Ethnic Composition of Women in Ifo



The parity of the respondents is presented in table 4. Overall, their parity ranged from 1 to 9 with the mean parity of 3.6. Two hundred and eighty (56%) reported that they had ever used a contraception, 220(44%) had not. As shown in table 5, the main contraceptives used were Natural methods (22.1%) injectables, (14.3%) and intrauterine contraceptive device (IUCD) (14.3%). Three hundred and twenty-five (65%) of the respondents had breast fed while 185(35%) had not. More than half (54.7%) breastfed for between 13-18 months. About one-third (36.7%) breastfed up to 12 months, while a few (7.7%) were up to 24 months. Very few (0.3%) breastfed for six months only. (Figure 6)

Table 4: Parity of women in Ifo

Parity	Number	Percentage
1	40	8.0
2	56	11.2
3	64	12.8
4	82	16.4
5	97	19.4
6	20	4.0
7	4	0.8
8	23	4.6
9	39	7.8
Total	425	100

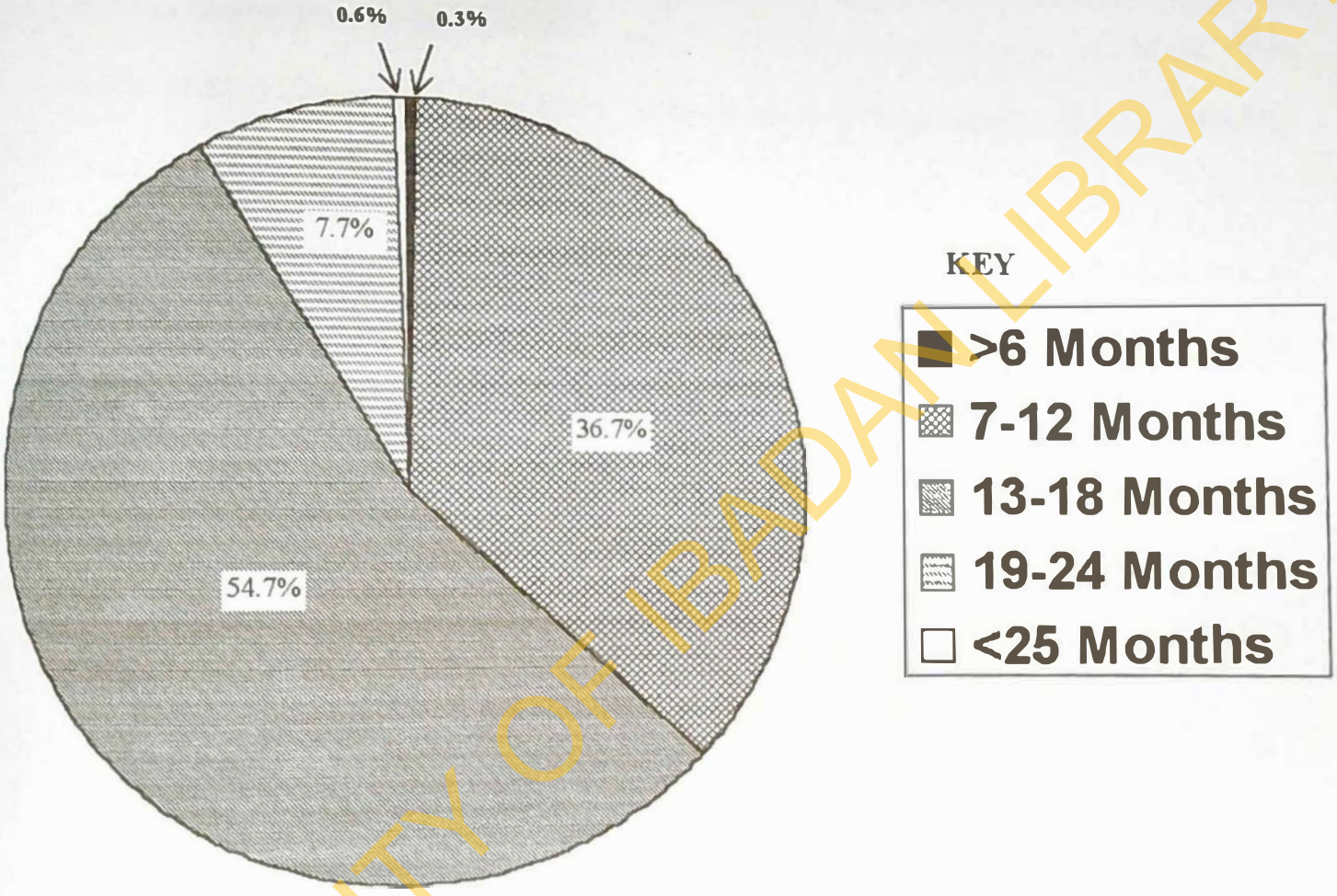
*75 Subjects had zero parity.

Table 5. Types of contraceptives used by women in Ifo

Contraceptives methods used	Number	Percentage
Natural family planning	62	22.1
Cervical Caps/condoms	40	14.3
Oral Pills	20	7.1
Injectables	40	14.3
Inter-Uterine Contraceptive Device (IUCD)	40	14.3
Norplant	21	7.5
Traditional Rings	20	7.1
Alabukun	19	6.8
Others*	18	6.4
TOTAL	280	100

Others – withdrawal
Herbal medication
Pad lock and key

Figure 6: The duration of breast feeding among women in Ifo



Knowledge about BC

A large majority, 421(84.2%) had heard about breast cancer 79 (15.8%) had not. When asked whether they knew any person with breast cancer problems, majority (67.8%) knew no such persons while only (32.2%) knew persons with the disease. Only a few (4.6%) claimed that they had a family history of breast cancer, majority (95.4%) had not.

The subjects' knowledge about breast cancer was based on the responses to questions 17 to 23 of the questionnaire. Statements about causes, early signs and symptoms including methods of early detection and preventive measure were made. Subjects were requested to answer true or false or remain undecided. For any correct answer, 3 scores were awarded. This process led to the construction of 111 breast cancer knowledge score. The summary of the performance of the subjects is presented in table 6.

To determine the overall knowledge score of subjects, those who scored 1/3 of the total kno...ledge score (1–37 points) were graded as "poor" (38–74 points), as "fair" while subject with (75-111 points) as "good". Similarly, various aspects of knowledge such as knowledge score on causes, ways to achieve early detection, signs and symptoms, prevention, including when to conduct BSE, were assessed, scored and subjects were categories based on the scored they obtained. Those who had 1/3 of the scores were graded as "poor", 2/3 were "fair" while above 2/3 of score were considered

as "good". Overall, 19(3.8%) of the women had good knowledge score, 281(52.2%) had fair knowledge while 200(40%) had poor knowledge score.

Concerning knowledge about causes of breast cancer, in all, subjects scored an average of 6 points out of the maximum score 42 points for the section. 63(12.6%) had good knowledge about cause, 228 (57.6%) had fair knowledge while 149(29.8%) had poor knowledge about causes. Assessing the knowledge about the methods of achieving early detection in question 18 (i- v). In all, respondents had an average score of 2.896 out of maximum of 15 points. One hundred and four (20.8%) had good knowledge score, 378 (75.7%) had fair knowledge while 18 (3.5%) had poor knowledge.

Knowledge about the early signs and symptoms of breast cancer was assessed in an eleven-point scale (question 19 (i-xi) on questionnaire). Overall, the subjects averaged 4.584 points, 18(3.6%) had good knowledge score, 321 (64.2%) had fair knowledge while 161 (32.2%) had poor knowledge score. Knowledge about the prevention of breast cancer was based on responses to questions 21 (i–vii), which yielded a maximum obtainable score of 21 points. Few 98(19.6%) had good knowledge 303 (60.6%) had fair knowledge, while others, 99(19.8%) had poor knowledge about prevention of breast cancer. Knowledge about when best to conduct BSE was assessed in question 20 (i - v). The women scored on the average 1.192 points out of the maximum score of 15 points. However, 69(11.8%) had good knowledge, 101(20.2%) had fair score while majority, 340(68%) had poor score as shown in table 6.

Table 6. Knowledge of women in Ifo about BC

VARIABLE	POOR	FAIR	GOOD	TOTAL
Overall knowledge score	200(40%)	281(56.2%)	19(3.8%)	500 (100%)
Knowledge of causes	149(29.8%)	288(57.6%)	63(12.6%)	500 (100%)
Knowledge of ways to achieve early detection	18(3.5%)	378(75.7%)	104(20.8%)	500 (100%)
Knowledge on signs and symptoms	161(32.2%)	321(64.2%)	18(3.6%)	500 (100%)
Knowledge on prevention	99(19.8%)	303(60.6%)	98(19.6%)	500 (100%)
Knowledge on when to perform BSE	340(68%)	101(20.2%)	59(11.8%)	500 (100%)

Source of Information on BC

The women's various sources of information on BC was explored. Only 119(23.8%) had access to information, 381(76.2%) had not. Forty women (33.6%) heard from primary health centre, bus stops, and streets within the community each while 39(32.8%) heard from school health education programme. A few respondents, 79(15.8%) had received health education on BSE while 421(84.2%) had not. One hundred and nineteen (23.8%) were familiar with BSE posters while 381(76.2%) were not. Of the (23.9%) that were familiar with BSE messages, (83.2%) reported that the message was clear while for (16.8%) it was not clear.

Practice of BSE

The majority of the subjects, 365(72.6%) had never examined their breast, while 137(27.4%) had done so. Of those who had examined their breast, 68(49.6%) did so on weekly basis, 67(49%) examined theirs annually, while only 2 (1.4%) assessed theirs on monthly basis.

The method adopted for BSE among subjects in shown in table 7. Ninety-eight (71.5%) adopted BSE in the bathroom, 29(21.1%) in front of mirrors and 10(7.4%) adopted lying down method. Among the subjects who had ever examined their breast, only 19(14.2%) had undertaken physician breast examination while 108(85.8%) had not as shown in table 8.

However, out of the 137 women who examined their breast, only 3 women reported that they detected an abnormality, including boils (33.3%) abscess (66.7%). The various actions taken by subjects who identified breast abnormalities showed that 2 subjects (66.7%) sought Hospital care, while one (33.3%) sought care with the church.

Table 7: Breast self examination Methods adopted by women in Ifo

BSE method adopted	Number	Percentage
BSE in bathroom	98	71.5
BSE in front of mirror	29	21.1
BSE lying down	10	7.4
TOTAL	137	100

Table 8: Physician Breast Examination Practices among Respondents

Physician breast examination	Number	Percentage
Yes	19	14.2
No	118	85.8
TOTAL	137	100

The ages, education, marital status of the subjects were compared with practice of BSE and the results are shown in Tables, 9, 10, and 11. Women in the 35-39 years group were significantly more likely (41.6%) to have practices BSE than those in other ages (P< 0.0362) Table 9. Similarly, more women with primary education had practices BSE than those with no education (18.9%), secondary education (5.8%) (P<0.00001) Table 10. The majority (83.2%) of women who had practices BSE were married (P<0.01558) (Table 11).

Table 9. Practice of BSE and age of women

PRACTICE OF BSE	Age of women							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Yes	2(1.4)	9(6.5)	11(8.0)	21(15.3)	57(41.6)	12(8.7)	25(18.2)	137
No	1(.2)	42(11.5)	61(16.8)	52(14.3)	119(32.7)	52(14.3)	36(9.9)	363
TOTAL	3	51	72	73	176	64	61	500

X2= 19.34642
Df = 6
Pvalue = .00362

Table 10: Relationship between BSE practice and educational attainment

Practice of BSE	Educational Attainment							TOTAL
	None	Primary	Secondary	Modern	Tech. School	Quaranic educ	Teachers' educ	
Yes	26(18.9)	43(31.3)	8(5.8)	21(15.3)	-	1(0.72	38(27.7)	137
No	107(29.4)	72(19.8)	75(20.6)	66(18.1)	4(1.1)	16(4.4)	23(6.3)	363
TOTAL	133	115	83	87	4	17	61	500

$X^2 = 6.50715$
Df = 6
Pvalue = .00000
% are in bracket

Table 11: BSE Practices Compared with Martial Status

BSE Practices	Marital Status						TOTAL
	Single	Married	Separated	Divorced	Widowed	Co-habitation	
Yes	10(7.2)	114(83.2)	10(7.2)	3(2.1)	-	-	137
No	56(15.4)	247(68.0)	29(7.9)	17(4.6)	13(3.5)	1(.2)	363
TOTAL	66	361	39	20	13	1	500

X2= 14.00502
Df = 5
Pvalue - .01558

The results of the comparison between knowledge of BC and BSE is shown in Table 12. Overall, 137 women practised BSE, out of these, only 19 subjects had good knowledge score, and 9 (47.4%) of these practised BSE while 10 (52.6%) did not. Among the majority of respondents with poor knowledge: only a few 41 (20.5%) practised SBE while majority 159 (79.5%) had not. The difference was significant ($P<0.05$)

Table 12: Comparison of Breast Cancer Knowledge and BSE practices

Knowledge score	BSE Practices		TOTAL
	Yes	No	
Poor (1-37)	41(20.5)	159(79.5)	200
Fair (38-74)	87(30.9)	194(69)	281
Good (75-111)	9(47.4)	10(52.6)	19
TOTAL	137	363	500

$X^2 = 10.387$
Df = 2
P<0.05
% are in brackets

Perceived self-efficacy to practice BSE

The subjects' perceived self-efficacy or self confidence to perform BSE were explored by formulating statements to which respondents were to rate themselves ("very confident", "confident", and "not confident at all". Over, the self efficacy score of the respondents ranged form 1 to 13.15 with a standard deviation of 1.423. This indicates that a large majority of the subjects have high self-efficacy.

The perceived self-efficacy of the subjects and their ages is shown in Table 13. Younger subjects aged (15-19), (20-24) years and middle aged subjects (30-34) had significantly higher mean scores (4.0), (4.4) (4.3) respectively than older subjects ($p<0.05$).

Table 13: Self-Efficacy for BSE compared with age of respondents

Ages (in years)	Perceived Self – Efficacy		
	TOTAL	Mean	STD Deviation
15 - 19	3	4.000	1.732
20 - 24	51	4.451	2.120
25 - 29	72	2.542	1.830
30 - 34	73	4.356	2.294
35 - 39	176	3.563	1.854
40 - 44	64	1.938	1.726
45 - 49	61	1.672	1.868

F statistics = 21.277
DF = 6
Pvalue = 0.000000 $p < 0.05$

Table 14 compares self-efficacy of the subjects with their educational attainment. Subjects with secondary and Koranic education had the highest mean self-efficacy scores of 4.2 and 4.7 respectively. This is followed by subject without education (3.5). This is significantly different from the scores obtained by subjects with modern (3.0) and teacher education (3.0) ($p<0.05$).

Table 14: Summary of Self-Efficacy to perform BSE and Educational Attainment

Educational level	Perceived Self – Efficacy		
	TOTAL	Mean	STD Deviation
None	133	3.579	1.780
Primary	115	1.904	2.123
Secondary	83	4.253	2.310
Modern School	87	3.080	2.053
Technical School	4	3.000	2.000
Quaranic School	17	4.765	0.752
Teachers' Education	61	3.016	1.919

F statistics = 14.530
Pvalue- 0.000000
Df – 6.

When the marital status of the subjects were compared with perceived self-efficacy, it was found that those separated had significantly higher mean scores of 4.9 than others. Unlike the divorced who had low mean score of 0.9. Table 15 ($p<0.05$).

Table 15: Perceived Efficacy and Marital Status of Respondents

Marital status	Self Efficacy For BSE		
	STD	MEAN	STD DEVIATION
Single	66	3.394	2.411
Married	361	3.119	2.053
Separated	39	4.974	1.013
Divorced	20	0.950	2.350
Widowed	13	2.154	1.819
Cohabitation	1	2.000	0.000

F statistics 11.616
P value = 0.00000
Df = 5

In an attempt to explore the relationship between the various variables associated with BSE practices, a regression analysis of variables like education, perceived self-efficacy to practice BSE, religion and ethnic group was compared. The results are shown in table 16. Perceived self-efficacy had the greatest positive association followed by education, while variables like religion and ethnic group had limited association.

Table 16. Regression analysis of education, self-efficacy, religion and ethnic group and BSE.

Correlation	Coefficient	r 2=0.04	ra2=0.03		
Source	df	sum of square	Mean square	F-statistic	
Regression	4	3.7331	0.9333	4.90	
Residuals	495	94.3549	0.1906		
Total	499	98.0880			
B coefficient	**B**	**95%** Confidence			
Variable	Mean	Coefficient	Lower	Upper	Standard error F-test
Education	1.1700	0.0316074	-0.013836	0.077050	0.023128 1.8676
Self-efficacy	7.8780	0.0553516	0.011345	0.099359	0.022398 6.1074
Religion	0.5720	-0.0518771	0.136022	0.32268	0.42826 1.4674
Ethnic group	0.7240	0.0474130	-0.46637	0.141463	0.047867 0.9811
Y-Intercept	-0.209642				

Health Care Seeking Behaviour

Women were asked whom they would consult first in the event of having a breast cancer problem. Three hundred and seventy-four (74.8%) would report to their husbands, 64(13.4%) the doctors, nurses or health workers. Other persons that women would consult first included mothers, traditional healers and siblings. The various reasons for which women would consult persons first are presented in table 18. More than two-thirds (74.8%) would consult their husbands for reasons such as "closeness", "next of kin" and "living together". 67(13.4%) consulted doctors for urgent treatment and expert knowledge on the matter. However, 34(6.8%) would consult older women because they are more knowledgeable about breast cancer.

The persons women would consult last in breast related problems showed that slightly more than half (54.8%) would report to the doctors or health worker, (17%) the friends, others included the mother-in-law (8.2%), traditional healers (6.8%), husband (4%), pastors (2.8%). The reasons for which women would consult persons last were also assessed. Majority, more than half who would consult doctors said, "doctors have the last say", "the only place to get help". Women resent injection. While (14.8%) would consult traditional healers because "they sometimes do better", "tell lies". They have more knowledge characterized the responses. Others mentioned Pastors for "divine intervention as cancer has no cure".

The acceptability of treatment methods were also assessed, 53 (24.2%) of women are willing to accept combination of treatment methods, (23.2%) removal of one or both breasts, however, only (3.8%) are willing to accept counselling services only.

Table 17: Reasons for consulting first contacts in breast-related problems

Persons consulted first	Reasons	NO	%
Husband	Husband is close, is the head, should know, bears cost of treatment, husband's opinion is important	374	74.8
Pastor/Priest/Imam	For divine intervention, cancer has no cure	9	1.8
Traditional medicine	Traditional medicine is available	11	2.2
Doctors	Doctors for urgent treatment and because doctors have increased knowledge on BC	67	13.4
Mothers	Women are more knowledgeable about BC	34	6.8
Brothers/Sisters.	Brother/sister are next of kin	5	1.0
	TOTAL	500	100

Perceived susceptibility to BC

Perceived susceptibility to breast cancer disease was assessed by formulating statement about perceived susceptibility and subjects were to "agree", "disagree", or remain "undecided". Four hundred and one (80.2%) agreed, 79(15.8%) disagreed, while 20(4%) remain undecided.

The relationship between breast cancer knowledge and perceive susceptibility to the disease was assessed. As shown in Table 18, all the women (100%) who had good knowledge score perceived themselves susceptible to breast cancer while majority of those who did not perceive self as susceptible to breast cancer or remain undecided (100%) had poor knowledge score. Statistically, there is a relationship between knowledge and perceived susceptibility, p value is 0.00000.

Table 18. Relationship between knowledge of BC and perceived susceptibility to the disease.

Knowledge score	Perceived susceptibility			
	Agreed	Disagreed	Undecided	Total
Poor (1-37)	159 (39.7%)	21 (26.6%)	20 (34.7%)	200
Fair (38-74)	223 (55.6%)	58 (73.4%)	0	281
Good (75-111)	19 (4.7%)	0	0	19
Total	401	79	20	500

X2= 41.69062
Df=4
P=0.00000

Beliefs about BC and its treatment

The women's beliefs about breast cancer were assessed by requesting them to respond to series of statements made on common beliefs about breast cancer (section C - beliefs of questionnaire). The subjects were requested to "agree", "disagree" or remain "undecided". If a subject 'agrees' to a negative statement, she scores one point, if she 'disagrees', she scores three points and if undecided, she scores two points. Thus the score obtainable ranged from 1–39. The total score was categorised as slightly negative (1–13), negative (14–26) and positive (27–39).

The women had a fairly positive overall mean belief scored 7.4 points. Eighty one (15.2%) had positive belief, 381(76.2%) had negative belief score while 38(7.6%) had slightly negative belief score as shown in (Table 19).

Table 19: Respondents' Belief about Breast Cancer

BELIEF SCORE ON BC	NUMBER	PERCENTAGE
Slightly negative (1-13)	38	7.6
Negative (14-26)	381	76.2
Positive (27-39)	81	16.2
TOTAL	500	100

The various treatment methods to be adopted by the women in the event of being diagnosed for breast cancer are shown in Table 20. Majority of the women would adopt orthodox method, 280(56%), 60(12%) would seek care with spiritualists and 39(7.8%) would adopt traditional method. However, 121(24.2%) would adopt a combination of methods.

Table 20: Methods of Treatment adopted for breast-related problems

Treatment methods adopted	Number	Percentage
Traditional method	39	7.8
Orthodox method	280	56.0
Spiritual method	60	12
Combination of methods above	121	24.2
TOTAL	500	100

Finally, from the various hypotheses proposed by the researcher, three independent variables appear to have played a major role in the outcome of the result i.e. BSE practices. These variables include knowledge level of respondents about when to perform BSE, breast cancer related knowledge of causes, self-efficacy or self-confidence in performing BSE and parity.

CHAPTER FIVE

DISCUSSION

In this chapter, explanation is provided regarding the results presented in the last chapter. The demographic characteristics of the subjects, their knowledge, attitudes and preventive practices of BSE for breast cancer as identified in this study forms the basis of the discussion. Comparisons are made with previous studies to highlight similarities and differences. Finally, conclusions are drawn and recommendations are provided.

Demographic Characteristics

Approximately 40% of the subjects surveyed had only primary education or none at all. This is an indication of the low status of women in Nigeria where women generally had low literacy rate than men. This low literacy level places women at a disadvantage in the sense that it limits their ability for employment opportunities, and decisions on health. The majority of the women in this study were married. This is to be expected given the fact that majority of them are aged 20-39 years which falls within the age of marriage in this environment. More than 1/3 (35.2%) are of pre-menopausal age (35–39 years) and about 12.8% are in menopausal age (45–49+). This has some implications because increasing incidence of breast cancer occurs among women in pre-menopausal and menopausal age brackets. Several studies confirm this claim. Women are at risk of breast cancer from their middle to later years (Jar et al, 1992). However, among the blacks, breast cancer occurs among pre-menopausal (a period that women

are yet to complete their family size, Adeniji – 1999). Women of all ages need to know about breast cancer. The fact that the majority of the women are Yoruba reflects the predominance of this ethnic group in the study area.

The parity of the subjects ranged from 0–9 with a mean parity of 3.6. Multiparity was previously thought to be a factor that confers immunity for breast cancer among women. However, Adebamowo (1998) and others investigators (Atoyebi 1997, Adeniji 1999) did not uphold this claim in their studies were they found that majority of the women with breast cancer were multiparous of 6 and above.

Knowledge about breast cancer

Despite their relatively low level of education, the majority (84%) of the women had heard about BC. However, there is inconsistency between the high level of awareness about BC and knowledge of the condition. Overall, only about (3.8%) of the women had a good knowledge of BC. There is concern that many subjects held several misconceptions about the cause of cancer, which included belief, that use of tight and second-hand brassieres could cause BC. Other false notions of the cause of BC were putting money in the brassieres, having multiple sexual partners, activities of the witchcraft evildoers and early marriage. This finding corroborates the report of the Anti-Cancer Foundation of SA (1999), in which a team of anthropologists advanced the notion that brassieres constrict the lymph system, thus causing breast cancer. This finding also agrees with the claim of Phillips (1999) who stated in his book "Dressed to

kill" that women believe that breast cancer can be caused by an injury to the breast, which is erroneous. However, It is possible that injury can draw more attention to the breast.

The misconception that cancer is a disease associated with Caucasians and that it is contagious is interesting. Because of this belief women recommended the avoidance of the use of second hand brassieres, which are imported into the Nigerian market, as a preventive measure. Interestingly African-American women hold similar notion of causation of BC (Phillips, 1999). However, there is no single cause of BC. Scientists have come to agree that it is more likely that a number of factors, some known and unknown (multifactoral) may trigger the development of BC (Awake, 1994).

The preconceived ideas about disease causation will to a great extent determine what preventive and curative measures that individuals will undertake for the disease. Thus, it is not surprising that some of the preventive measures against BC reported included, prayers, increased personal hygiene, avoidance of the use of second hand brassieres and early marriage. Unfortunately, none of these behaviours confer protection to the women who practice them.

The study showed a knowledge deficit in the early signs and symptoms of BC only (3.6%) of the subjects had good score of 23–33 points. This knowledge deficit explains why women do not report early to the hospitals as documented in several studies world wide especially in developing countries including Nigeria (Miller, 1992; WHO, 1996; Ajayi and Adebomowo, 1999). The level of knowledge with reference to

timing of BSE in relation to menstrual cycle was also poor. Only (1.4%) knew correctly when to examine the breast while (98.5%) thought incorrectly that it could be performed on weekly or annual basis. The best timing for performing is seven days of menstrual bleeding - a phase in the cycle when the breasts are less tender and assessment of the breast tissues are easy with less discomfort.

Breast Self Examination Practices

The practice of BSE among the subjects studied was low. Only (27.4%) had ever examined their breast, despite the fact that (84.2%) has heard about BC. This result is similar to that of Ramirez and colleagues (2000) who found that African American women consistently showed lower BSE practices than white women. However the figure is higher then 11% found among university and polytechnic student in Ibadan (Oladepo & Adegoke 1989) While several reasons like anxiety, confusion on method for use had been advanced as being responsible for women not performing BSE in developed countries, the major reason identified in this study for which women do not practice BSE is knowledge deficit especially on when and how to perform BSE. These findings imply that there is need to increase the knowledge of women about BSE.

Among women who performed BSE, the procedure was carried out mainly in a bathroom. Unfortunately, this method is least effective for detecting breast lump. Discovering irregularities early in the breast requires an intimate knowledge of one's breast interior structure. Wet soapy hands can make it more difficult to probe deeply.

This method is compounded by the fact that standing up is not the best position for effective breast examination, but lying down position (Maurer, 2000). This implies that few women, who claimed to have performed BSE, do not follow the standard procedure. Other investigators have reported similar results (Adebamowo et al, 1999).

The common abnormalities detected by the subjects were boils and abscess (66.7%) each. This is probably because these were the breast problems known to them. However, the onset of breast cancer is typically characterised by painless lump. It is interesting that only few women (14.2%) had had their breast examined by a physician. This is also in line with the prediction of the health belief model by Rosen-stock and Becker (1974) who state that there is an association between a recommended action (BSE) and certain components of the disease including perceived seriousness.

The majority of women (99.2%) surveyed had a high level of perceived self-efficacy to perform BSE. This is helpful for health education intervention to promote practice of BSE. One potential effective approach is that trained older parous women can easily teach younger ones the skills to perform BSE while community health workers reinforce these behaviour thus enhancing early detection of BC. According to Bandura (1977) and Rotten (1954), when one sees a model perform behaviour, ones ability to reproduce the behaviour is enhanced (observational learning).

Comparing the various aspects of knowledge i.e. causes, signs & symptoms, practice of BSE; no association was established for knowledge about causes and signs and symptoms but a significant association was established between knowledge about

preventive BSE practices (P- value 0.00000) knowledge about preventive BSE should therefore be an essential health education component for Ifo women. In the study conducted by (Champion and Menon, 1997). Similar significant variables of perceived susceptibility, benefit knowledge were frequent predictors of BSE.

Beliefs and Attitudes about breast cancer

The women studied exhibited fairly positive mean belief score of 7.4 points. Majority believed that cancer is not a family curse, that women are susceptible, and those BSE skills are not difficult to learn. Early detection enhances prognostic outlook. Belief as a modifying factor according to Bandura (1977) impinges on the level of knowledge, which helps to awaken women's ability to perceive the benefit of BSE. Sebanjo and Kalu (1989) reported greater clinic attendance among women who believed that early detection of cervical cancer could reduce the adverse effect of the disease.

The various steps that subjects will take in the event of being diagnosed with breast cancer revealed that husband (74.8%), health care workers (12.6%), church and spiritual homes, older women (6.8) were the initial persons and places to be consulted. These health actions are based on beliefs held by the subjects that husbands are the heads of the household and should decide were to receive care. Generally, the women in this study exhibited a positive attitude to BSE. Several other studies conducted in North America about attitudes to BSE revealed that it was a significant predictor to BSE

practice. There is therefore much room for improvement on the practice of BSE among the women studied.

Care Seeking Behaviour

Evident in this study is the fact that women depend on their husband for decisions especially on personal matters such as health issues, breast cancer, and family planning. Majority reported that they would consult husbands first. In situation where finances are limited, poor decisions are made and alternative cheap treatments are adopted. This situation is further compounded by the fact that the health of women are often downplayed (Miller, 1992). This finding inclined the researcher to believe that these groups of persons should however, play vital roles in the various interventions if behavioural changes are to be achieved, and women practice BSE as a way of life.

The majority of the subjects claimed that in the event of having breast-related problem they would go to a hospital first after informing their husband. However, the subjects do not have an absolute faith in orthodox medicine, as many would still seek alternative care including churches and traditional healers. Experience show that patients resort to orthodox medicine after the traditional healers have failed to solve the problem. This behaviour is influenced by the belief held by women that BC typically requires surgical intervention, which they consider unacceptable. Another related belief is that women who undergo surgery for BC will eventually die. For effective delivery of care, the traditional and spiritual healers should be integrated into the orthodox

medicine for the management of chronic condition such as BC. This treatment pathway adopted by the subjects is one of the reasons for the widely reported late presentation, a common behaviour of patients with BC in this environment. (Atoyebi, 1997; Adebomowo (1999).

Conclusion

BC is a major public health problem that is responsible for a significant number of mortality among women throughout the world, including Nigeria. Early detection through BSE plays an important role in reduction of mortality associated with BC. This study surveyed women in Ifo, a rural community in Ogun State, concerning knowledge of BC and practice of BSE to generate date for planning appropriate interventions. Although the majority of the women had heard about BC, they still held several misconceptions. Consequently, the preventive measures adopted by the women were in line with these misconceptions. Although many of the women had a high-perceived self-efficacy to perform BSE, only about a quarter actually performed it.

Husbands play important roles in influencing health care seeking behaviour as majority of the women would consult their spouse in matters relating to breast or reproductive issues, suggesting that interventions directed at women should include their spouse. Hospitals are usually the last resort in the management of breast cancer problems while herbalists and spiritual homes remain the first contacts. Innovative interventions must be explored to integrate these care providers into orthodox medicine.

Recommendations

The rising death tolls to breast cancer among women globally and in Nigeria, the huge benefit of early detection through BSE practises, which improves disease prognosis, (80% success rate), and the need to increase the number of women who perform BSE formed the basis for these recommendations.

(1) The health promotion of BSE should be integrated into the school health education curricula for both primary and secondary school levels since majority of the subjects had primary & secondary education. Also, BSE skills and knowledge should form the basis of such educational intervention.

(2) Primary Health Care centre was identified as one of the major sources of information among respondents (33.6%) therefore, PHC should be adopted as one of the channels for dissemination of information on breast cancer and BSE skills. Specifically, breast screening units can be integrated with appropriate practice cards for monitoring the BSE practice of women.

(3) Community intervention programmes with older women being trained as peer educators is recommended, since women studied tend to consult older women in the event of breast related problems or other reproductive health issues.

(4) Study showed a knowledge deficit in the early signs and symptoms of BC. However, subjects exhibited high level of positive attitude towards BC, which indicates that they will be receptive to educational intervention. An awareness

campaign programmes to increase BC knowledge of women in the community is recommended.

(5) Campaign programmes should target women and their husbands. Male involvement had become very important because majority of the would consult their husband first in the event of having breast cancer problem, spousal approval is one of the critical variable that influenced care seeking behaviour of the women studied.

(6) Community involvement and outreach programmes involving churches and mosques is recommended as most subjects would adopt a combination of treatment methods in BC problem.

With the above suggestions, it is expected that the knowledge attitudes and preventive practices of BSE of women in Ifo town in particular and Nigerian women in general would improve.

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APPENDIX A

KNOWLEDGE, ATTITUDE, BELIEFS AND PREVENTIVE HEALTH BEHAVIOURS OF WOMEN TOWARDS BREAST CANCER:- IMPLICATION FOR HEALTH EDUCATION

FOCUS GROUP DISCUSSION GUIDE (FACILITATOR)

A) INTRODUCTION:

i Good morning, afternoon, or evening

ii We wish to thank you for making out time to be here for this exercise.

iii I am (Facilitator's name) and with me is – (Note taker's name).
We are from the University College Hospital Ibadan, you are very knowledgeable about the practices, beliefs and attitudes of women in this community, towards breast problems. We will like you to share this knowledge and your views with us.
All the information you will give will be used for research purposes, i.e. it will help us to improve on the provision of health care services.

iv Please, feel free to express your mind, and in the process you are free to disagree with one another.

Remember, all our discussions shall be kept secret and there is no right or wrong answers.

B) SELF INTRODUCTION

i Before we proceed, I suggest that we introduce ourselves (introduction of discussants).

ii Thank you all, so that we do not miss out anything you say, (name of note taker) will be taking some notes. We will also record the views on a tape.

iii For the purposes of this discussion, we shall identify ourselves by numbers. (Note taker distributes numbers and pins).

iv I shall now proceed with the questions.

KNOWLEDGE ABOUT BREAST CANCER

1. What are the common health problems which affect women of child bearing age in your community.
2. Identify the major ones.
3. What are the various types of breast problem people in this community have?
4. What causes breast cancer? (Your opinions) Probe (feeding, practices, use of medication, or contraceptive pills, multiparity, early marriages, nulliparity, multiple sex partners).

5. What do people in the community believe causes breast cancer? What are their other believes concerning breast problems?
6. Does the disease occur in stages? Mention the local names for the stages?
7. Is the disease curable?
8. At what age can one have breast cancer?

B. Practice About Breast Cancer

1. Have you heard about breast self examination? BSE?
7. At what age did you first hear about BSE
2. Where & how did you come to hear or learn about breast cancers and breast self examination?
3. What is breast self examination?
4. Do you know how to perform BSE? (Assess appropriateness of skills e.g. steps involved).
5. At what age should one start BSE, and at what age should one stop?
8. At what period of the cycle should a woman perform BSE, probe. (Before, during few days after menses, period close to the next menses).
9. What specific signs would one see on the breast that called for medical attention?
10. How do people gain entry into hospital for care? For breast cancer subjects?
1. What are the local terminologies used for, signs and symptoms, concepts, relating to breast cancer?

HEALTH CARE SEEKING BEHAVIOUR IN BREAST CANCER

- What do people normally do when they discover abnormalitites on their breast such as (enlarged breast, nipple discharge, presence of lump, skin changes etc.).
- What are the factors that would make people to take such decisions or actions
- What do people in your community do first if someone discover this abnormality? (probe for local interventions, first line of actions friends/churches, traditional healers etc.
- What are the obstacles or constraints, which may prevent women from seeking treatment in the hospital first?
- Where do people go to seek for help: probe (hospital, herbalists etc).
- What are some of the reasons for their choices?
- What in your opinion would be the earliest time people will consult a Doctor in breast related problem?
- State the reasons for their promptness or delays in action?
- At what period of the cycle should a woman perform SBE, probe. (Before, during, few days after menses, period close to the next menses).

- What specific signs would one see on the breast that called for medical attention? (How do people gain entry into hospital for care)
(For breast cancer subjects)

- What are the local terminologies used for, signs and symptoms, concepts, relating to breast cancer.
- If hospital treatment involved surgery removal or part/whole breast would women in this community be willing to accept and comply to hospital regime?
- (Probe: reasons e.g. affordability, effectiveness, availability).
- What other preventive health practices do women perform against occurrence of breast cancer in this community?

BELIEFS

- What are some of the beliefs in this community concerning breast cancer?
- Are people in this community usually happy with the Hospital intervention?
- Did you comply to Hospital regime? (Probe reasons e.g. affordability, effectiveness, availability etc.).
- What other preventive health practices do women in this community perform against occurrence of breast cancer, or its proper management e.g. (probe insurance policy, formation of co-operation, proper or adequate Nutrition etc).
- Which treatment regime do people prefer? (traditional or orthodox).

ATTITUDES TOWARDS BREAST CANCER:

- What are people's attitude towards persons with breast?
Probe: (Spouse, Children, Relation, Hospital Care givers etc.)

FOCUS GROUP DISCUSSION (PARTICIPANTS)

1) Women aged 15–70 years

APPENDIX B

QUESTIONNAIRE OF KNOWLEDGE, BELIEFS AND PREVENTIVE HEALTH BEHAVIOUR OF WOMEN TOWARDS BREAST CANCER AT IFO LGA OF OGUN STATE

This questionnaire is designed to obtain valuable information on the above subject to enable us design appropriate health education intervention to prevent cancer diseases amongst women in Nigeria. All the responses will be treated as confidential. Do not write your name. Please endeavour to answer all the questions asked. Thank you for your participation.

SECTION A
DEMOGRAPHIC INFORMATION
Please fill the gaps or circle as appropriate.

1. District _____ Ward _____

2. Village _____ PHC House Number _____

3. Age at last birthday: (a) 15 - 19 (b) 20 - 24 (c) 25 - 29 (d) 30 - 34 (e) 35 - 39 (f) 40 - 44 (g) 45 - 49+

4. State the highest educational qualification which you have:
   i. None
   ii. Primary school leaving certificate
   iii. Secondary school certificate (WASC)
   iv. Modern school certificate
   v. Technical school certificate
   vi. Quaranic education
   vii. Teachers' college of education
   viii. University degree
   ix. Postgraduate certificate
   x. Others, specify _____

5. Which is your marital status?
(i) Single (ii) Married (iii) Separated
(iv) Divorced (v) Widowed (vi) Co-habitation

6. Ethnic group
(i) Yoruba (ii) Ibo (iii) Hausa
(iv) Others specify: _____

7. What is your religion? _____

8. Have you ever been pregnant?
(i) Yes (ii) No
If No, go to questionnaire 10.

9. How many children did you have (both alive and dead)? _____

10. Have you ever used any contraceptive(s) or birth control method(s) before?
(i) Yes (ii) No

11. If Yes, which method(s)?
i. Natural FP method e.g. Billings
ii. Cervical caps/condoms
iii. Spermicidal (foaming tablets)
iv. Pills
v. Injectables
vi. IUCD
vii. Norplants
viii. Bilateral tubal ligation
ix. Others specify:_____

12. How long did you breast feed your last baby? _____ months

13. What did you do to stop breast feeding your child?
i. Used pills
ii. Used firm bra only
iii. Application of bitter leaf to nipple
iv. Gave drugs/alcohol to sedate baby
v. Use bottle feeding to replace breast feeding
vi. Application of hot fermentation to breast

vii. Expressed breast milk off
viii. Baby still breast feeding
ix. Others specify: _____

SECTION B - KNOWLEDGE
Please circle as appropriate.

14. Have you ever heard about breast cancer?
(i) Yes (ii) No

15. Do you know any person who had breast cancer?
(i) Yes (ii) No

16. Does anyone in your family have breast cancer?
(i) Yes (ii) No

Answer True or False to the following statements about breast cancer.

17. Breast cancers can be caused by:

i.	Partial breast feeding practices.	(1)T	(2) F	(3) Don't know
ii.	Having multiple sexual partners.	(1)T	(2) F	(3) Don't know
iii.	Not supporting the breast with firm bra	(1)T	(2) F	(3) Don't know
iv.	Using second hand brassieres from patients who had suffered breast cancer:	(1) T	(2) F	(3) Don't know
v.	Having too many children 4 and above.	(1) T	(2) F	(3) Don't know
vi.	Having a trauma affecting the breasts.	(1) T	(2) F	(3) Don't know
vii.	Having an infection affecting the breast.	(1) T	(2) F	(3) Don't know
viii.	Caressing the breast too often.	(1) T	(2) F	(3) Don't know
ix.	Putting money (coins and notes) in the brassieres.	(1) T	(2) F	(3) Don't know
x.	By stress hard work on the women	(1) T	(2) F	(3) Don't know
xi.	Use of birth control drugs	(1) T	(2) F	(3) Don't know
xii.	Spiritual attacks	(1) T	(2) F	(3) Don't know
xiii.	Hereditary factor	(1) T	(2) F	(3) Don't know
xiv.	Smoking and ingestion of alcohol by eating bitter kola-nuts and kola nuts.	(1) T	(2) F	(3) Don't know

18. Early detection of breast cancer can be achieved through the following ways:

i.	Mammography x-ray of the breast	(1) T	(2) F	(3) Don't know
ii.	Consultation with oracles	(1) T	(2) F	(3) Don't know
iii.	Self breast examination practices	(1) T	(2) F	(3) Don't know
iv.	Blood test	(1) T	(2) F	(3) Don't know
v.	Others specify _____			

19. The early signs and symptoms of breast cancer is/are:

i.	Painful breast	(1) T	(2) F	(3) Don't know
ii.	Refusal of breast milk by baby	(1) T	(2) F	(3) Don't know
iii.	Cracked nipple	(1) T	(2) F	(3) Don't know
iv.	One breast growing bigger than the other	(1) T	(2) F	(3) Don't know
v.	Discharge (blood/fluid/pus) from the nipple of the breast.	(1) T	(2) F	(3) Don't know
vi.	Boil on the breast	(1) T	(2) F	(3) Don't know
vii.	Itching of the breast (puritus)	(1) T	(2) F	(3) Don't know
viii.	Discoloration of the breast tissue	(1) T	(2) F	(3) Don't know
ix.	Painless lump in the breast	(1) T	(2) F	(3) Don't know
x.	Enlarged axillary lymphnodes	(1) T	(2) F	(3) Don't know
xi.	Enlarged, painful, hot breast	(1) T	(2) F	(3) Don't know

20. Self breast examination is best performed during the:

i.	Six days before menses or menstrual period for women who will menstruate.	(1) T	(2) F	(3) Don't know
ii.	7th day after menstrual period in women who are still menstruating (pre menopausal)	(1) T	(2) F	(3) Don't know
iii.	At specific dates of the month in a post menopausal woman (women who do not menstruate)	(1) T	(2) F	(3) Don't know
iv.	Daily before morning bath in women	(1) T	(2) F	(3) Don't know
v.	Daily at night before bed time	(1) T	(2) F	(3) Don't know

21. Below are some statements about prevention of breast cancer. State whether the statements are true or false:

i.	Breast cancer is a preventable disease	(1) T	(2) F	(3) Don't know
ii.	Self breast examination can help to detect breast cancer	(1) T	(2) F	(3) Don't know
iii.	Early detection of breast enhances good prognosis:	(1) T	(2) F	(3) Don't know
iv.	Excessive intake of fatty foods predisposes one to breast cancer.	(1) T	(2) F	(3) Don't know
v.	Preventive SBE practices should be performed by older women only because they are more likely to get breast cancer	(1) T	(2) F	(3) Don't know
vi.	The best period to start SBE is at 15 - 40 years only	(1) T	(2) F	(3) Don't know

vii. The best period to start breast examination in order to detect abnormality is at 40 years. (1) T (2) F (3) Don't know

22. What are the various ways breast cancer can be treated in your community?
i. Traditional method
ii. Orthodox method
iii. Spiritualist method
iv. Combination of methods above
v. Others specify _____

23. Answer True or False to the following about prevention of breast cancers:
To prevent breast cancer, women should stop:
i. Taking alcohol (1) T (2) F (3) Don't know
ii. Smoking (1) T (2) F (3) Don't know
iii. Eating bitter kolanuts, coffee (1) T (2) F (3) Don't know
iv. Avoid all stressful situation e.g. hard work (1) T (2) F (3) Don't know
v. Having multiple sex partners (1) T (2) F (3) Don't know
vi. The use of contraceptive pills (1) T (2) F (3) Don't know
State other preventive measures women can take against breast cancers.

24. Below are some statement about beliefs on breast cancer, state if you agree, disagree or undecided about them:

	Statements	Agreed	Disagree	Undecided
(1)	The belief is that cancer disease is a family curse.			
(2)	Breast cancer can affect any woman (susceptibility)			
(3)	Educated woman are more at risk to breast cancer than uneducated ones.			
(4)	Older women are more likely to get breast cancer than young ones.			
(5)	Self breast examination skills are difficulty to learn.			
(6)	The treatment of breast cancer in hospital is expensive			
(7)	The treatment of breast cancer in hospital is ineffective because patients still die.			
(8)	It does not matter if I loose one breast as part of my treatment for breast cancer			
(9)	Women who breast feed their babies are at lower risk of breast cancer than women who do not.			
(10)	Belief I cannot get breast cancer in because it does not run in my family			
(11)	There is no likelihood of getting breast cancer in life.			
(12)	It is immoral for a woman to palpate her breast in the name of SBE.			
(13)	People who self examine breast are likely to detect cancer early.			

SECTION D - PRACTICE QUESTION

25. Respond to the following tasks in terms of your confidence to perform them

Statement	Very confident	Little confident	Not confident at all
1. I can perform self breast examination if I acquire the necessary skills			
2. I can subject myself breast self-examination			
3. I can go to health facility to request for information about breast cancer			
4. I can subject myself to surgical interventions in breast problems			
5. I can discuss my breast-related problems with friends			

26. Have you ever examined your breast to detect any abnormality?
(i) Yes (ii) No, if No, go to question 34
If Yes, list the steps in BSE

TECHNIQUES FOR BREAST SELF EXAMINATION (BSE)

(i) Positions for BSE: In the bathroom OR
Standing in front of the mirror OR
Lying on the back on the bed.

27. If Yes, how often do you perform this examination?
Weekly ..... Monthly ..... Annually .....

28. When did you perform the breast examination? .....

29. Have you ever gone to any health worker or doctor for comprehensive breast examination? (i) Yes (ii) No

30. Have you ever detected any abnormality in your breast? (i) Yes (ii) No

31. If Yes, what was the abnormality? .....

32. When was the abnormality noticed? .....

33. What did you do about it? .....

34. Who would you consult first in breast related problems? (Tick as appropriate)
   i. Consult no-one
   ii. Pastor, Priest, Imam
   iii. Husband
   iv. Friends
   v. Mother-in-law
   vi. Traditioanl healers
   vii. Doctors, nurses, health workers

35. State your reasons .....

36. Who would you consult last in breast related problem?
   i. Pastor, Priest, Imam
   ii. Husband
   iii. Friends
   iv. Mother-in-law
   v. Traditioanl healers
   vi. Doctors, nurses, health workers

37. Why? Give reasons .....

SECTION E - ACCESS TO HEALTH EDUCATION

6 Have you ever seen any poster or pamphlet(s) on breast cancer or self breast examination?
(i) Yes (ii) No

39. Was the message on the poster or pamphlets well-understood?
(i) Yes (ii) No, If No, go to question 41.

40. Where did you see the poster or pamphlet (circle as appropriate)
   i. Church, Mosque, any place of worship
   ii. At school during health education programme
   iii. At the Primary Health Centre in my area
   iv. At home through my parents
   v. On the Television, Radio (Media)
   vi. At the bus-stop
   vii. On the streets where we live

41. Have you ever received a talk on self breast examination? (i) Yes (ii) No

ACCEPTABILITY OF TREATMENT METHODS

(a) If you were to be treated for breast cancer, express your willingness, unwillingness to accept the following treatment methods:

Methods of Treatment Willing to accept Unwilling to accept

1. Prayers for divine healing only
2. Removal of lump in the breast
3. Radiotherapy for breast
4. Chemotherapy (use of drugs) which will remove your hair
5. Removal of one or two breast(s)
6. A combination of all the treatment approaches stated above
7. Counselling services only

(b) What actions would you take if you detect any abnormality on your breast?

_____

_____

_____

APPENDIX C
BREAST SELF-ATTITUDES, KNOWLEDGE AND PRACTICES AMONG WOMEN IN IFO

SUBJECT INFORMATION AND CONSENT FORM

A study is being conducted by Mrs. A. Onyenwenyi, a lecturer in Community Health Officer's Training Programme of Lagos University Teaching Hospital. She wants to ascertain the knowledge level, beliefs and preventive practices of women towards breast cancer.

The research result will provide data base for designing appropriate culture sensitive health education materials to improve the preventive behaviours of women towards breast cancer.

You are invited to participate in a focus group discussion session. You will be expected to answer some questions, giving details of some aspects of your personal life and medical history concerning the breast cancer problem.

All information you provide will be kept confidential. Please feel free to ask my question on your expectation of the study.

ONYENWENYI A.●.C. (MRS.)
ICH & PC
CHO TRIANING PROGRAMME
LUTH

CONSENT FORM

The objective and expectation of the study have been fully explained to me.
I hereby give my consent to participate in the focus group discussion session.

FULL NAME:.....

Address:.....

Witness Name:.....

Relationship.....

Address:.....

.....
Signature/Right Thumb Print