EFFECT OF BEHAVIOURAL CHANGE COMMUNICATION ON FEMALE MENIAL WORKERS' UTILISATION OF BREAST CANCER SCREENING IN OYO AND OSUN STATES, NIGERIA

By

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ABSTRACT

Early detection through screening has been acclaimed to be the antidote for preventing breast cancer related morbidity and mortality among women. Regardless of its significance, there exist poor knowledge and negative attitude towards breast screening, particularly among low socio-economic status women. However, this trend can be changed through behavioural communication interventions. Previous studies focused largely on the use of the mass media, despite its inherent weaknesses to bring about desired change in health behaviour. This study, therefore, examined the effect of Behavioural Change Communication (BCC) on female menial workers' utilisation of breast cancer screening in Oyo and Osun states, Nigeria. The moderating effects of age and educational attainment were also determined.

The study was anchored on Health belief model, Diffusion of Innovation, and Planned behaviour theories, while the pretest-posttest control group, quasi-experimental design of 2x3x2 factorial matrix was adopted. One private and public university each with Teaching hospital that has a breast cancer unit was purposively selected from the two states. Female menial workers' who are outsourced staff of the two universities were selected. The participants were randomised into BCC (50) and Control (50) groups, while treatment lasted eight weeks. Instruments used were Breast Cancer Disease Awareness Scale (r=0.80) Breast Cancer Screening Questionnaire with four subscales (Knowledge/Awareness- r=0.71, Sources of Information- r=0.85, Screening Method- r=0.91 and Utilisation - r=0.72), and BCC and control packages and guides. Data were subjected to percentages and Analysis of Co-variance and Duncan posthoc test at 0.05 level of significance.

Participants were mainly married women (98.0%) aged between 20 and 50^{+} years; with educational attainment of elementary (64.0%) and secondary (32.0%). Knowledge about breast cancer before the intervention was 14.0% and 99.8% after the intervention, while the source of their information about breast cancer was solely from print and electronic media. There was a significant main effect of treatment on female menial university workers' utilisation of breast cancer screening in Oyo and Osun states ($F_{(1, 91)}$=72.16, η^2=.42). Participants in BCC had a higher post treatment mean score of 48.70 than those in the control group ($\bar{x}$=30.22). There was a significant main effect of educational attainment on female menial university workers' utilisation of breast cancer screening ($F_{(1, 91)}$=22.06, η^2=.32); while age had none. Participants with high educational attainment had higher breast screening utilisation ($\bar{x}$=40.92) than those with low educational attainment ($\bar{x}$=38.12). There were no significant two-way interaction effects of treatment and age, treatment and educational attainment, and age and educational attainment on breast cancer screening utilisation. The three-way interaction effect was not significant.

Behavioural change communication was effective in creating awareness and fostering utilisation of breast cancer screening among female menial university workers' in Oyo and Osun states, Nigeria. Education was a determining factor in the adoption of breast cancer screening. Therefore, women, particularly those with low educational attainments should be well exposed to behavioural communication interventions to create and sustain awareness to enhance adoption of breast cancer screening.
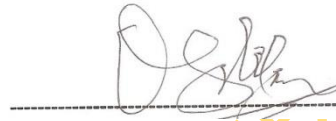
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CERTIFICATION

We certify that this research work was carried out by Jaiyeola Aramide **OYEWOLE** (Matric No 58084) in the Department of Adult Education, University of Ibadan, Ibadan Nigeria.

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DEDICATION

This work is dedicated to God the Father, God the Son and God the Holy Spirit, for divine intervention and authorisation for completion.

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CHAPTER ONE

INTRODUCTION

1.1   Background to the study

Globally, cancer is responsible for more than seven million deaths annually (Mardani-Hamule and Shahraky-Vahed, 2010). Breast cancer is particularly one of the major causes of cancer deaths worldwide (Torbaghan, FamarFarma, Moghaddam and Zarei, 2014). In the developed world, cancer is the second leading cause of death accounting for 21 per cent (2.5 million) of deaths, while, in the developing world, cancer ranks third, accounting for 9.5 per cent (3.8 million) of deaths (World Health Organization, 1998).

Altogether, about 24.6 million people live with cancer worldwide. It is assumed that, if the trend continues, by 2020, as many as 15 million new cases will be diagnosed per annum, out of which 70 per cent will be in developing countries (WHO, 1998). By then, the trend globally will be 56.8 per cent and 35.6 per cent per 100,000 for black and white women aged 45-65 years, respectively. Besides, the black women will be having a lower five year survival rate at 77 per cent compared to 90 per cent for the white women. In addition, the disease will appear in more advanced forms at a younger age in blacks than in whites.

Torbaghan et al. (2014) submit that the incidence of breast cancer is rapidly increasing in developing nations of the world. Parking, Bray, Ferlay and Pisani (2012) report that, among indigenous Africans, about 650,000 people out of estimated 965 million are annually diagnosed of cancer, showing that lifetime risk of dying from cancer in African women is two times higher than that in developed countries.

The available statistics in Nigeria, also suggest substantial increase in the incidence of breast cancer in recent times. It is on record that 40 Nigerians die everyday from breast cancer (Jedy-Agba, 2012). The peak age of breast cancer is about ten years earlier than the experience of many Western women (Sylla and Wild, 2011). In 2008, of the 12.7 million new cancer cases, 56 per cent reportedly occurred in developing countries and Nigeria had the highest fatality ratio (Sylla & Wild, 2011). It is on record that Nigeria contributed 15% to the estimated 681,000 new cases that occurred in Africa in 2008 (Jedy-Agba, 2012).

In terms of women's morbidity and mortality, breast cancer leads all other cancers. This could be attributed to the fact that most women are not informed or are insufficiently informed about the need for health behaviour change as a deterrent to untimely death resulting from breast cancer (Pasket 1999; Olowookere, 2012). Breast cancer is the most commonly diagnosed cancer in women worldwide; however, survival rates have improved

where breast screening is introduced (Wardle, Robb, Vernon and Waller, 2015). There is a very high percentage of women with poor knowledge of breast screening because the need for screening has not been adequately communicated to them. Reduction in mortality from breast cancer depends on successful interventions aimed at early detection and treatment. Many women in Nigeria are not aware of the screening methods available for breast cancer, such as breast self examination (BSE) or mammography, neither are they aware of the need to regularly carry out this exercise (Azubuike and Okwuokei, 2013).

Foremost amongst the important strategies in reducing breast cancer mortality is the uptake of screening to achieve early detection of cancer. Potentially, early diagnosis usually results in treatment before metastasis and signifies better outcome of management. It is important to appreciate the fact that women's status is affected by complex biological, social, and cultural factors that are highly interrelated (WHO, 2013). Thus, to reach women effectively, health systems must take into account the biological, social, economic, health, nutrition, psychological and individual and behavioural factors that increase health risks for women. Women of lower socio-economic status underestimate the importance of curative medical owing to ignorance and poverty. Women often face neglect, deprivations, and abandonment on a daily basis because procurement of good health sometimes seems impossible as a result of poverty. The implication of this is that such women's health usually suffers and deteriorates.

Olowookere, Onibokun and Oluwatosin (2012) submit that, despite the benefits of screening, many women, particularly poor and lowly educated minority do not participate in screening owing to high cost and lack of awareness. Until some women are faced with ill health, they know and care little about breast cancer screening and information. For some, their physiological state does not matter and poses no question until the body refuses to function as expected; it is then that the search for medical help begins. Some other women are even afraid to discuss their biological problems and questions until when it is somewhat late. Those who bother when unhealthy go to wrong places instead of the designated health centres. The behaviour and attitude of these lowly educated women can be corrected or changed through behavioural change communication interventions (BCC). Darton (2008) submits that negative behaviour towards breast cancer screening exercise can modify and change over time.

In spite of the enormous benefit of screening for early detection of breast cancer, many women of low socio-economic status do not participate in screening owing to high cost

and lack of awareness. In a study conducted among rural California American Indian women, it was discovered that there were cultural and socio-economic barriers to breast cancer screening. These barriers included lack of knowledge regarding the need for breast cancer screening, as well as lack of knowledge regarding treatment and very high cost of medical care (Hodge, 2009). Also, in a study conducted among traders and full time housewives in Lagos State, Nigeria, Adetifa and Ojikutu (2009) found that breast cancer was prevalent within this category of poor and unemployed sit-at-home women.

Further, the study conducted by Wu, Tsu-Yin, Liu Yi-Lan &Chung Scott, (2012) among women in China, reported a strong link between huge financial cost, beliefs, knowledge and awareness about utilisation of breast cancer screening among women. This report is in consonance with a release by the Breast Health Global Initiative that indicated a lack of public awareness regarding early detection of breast cancer. Further, the report also highlighted the importance of the involvement of community and lay health officers in the sensitisation and awareness creation programs among the rural and poor women.

Azubuike and Okwuokei (2013) reported that except knowledge regarding breast cancer is readily available and wrong beliefs about the disease countered, women susceptible to breast cancer disease may not adopt screening methods as a potent strategy for early detection and reduction of breast cancer mortality. In the same vein, Olowookere et al (2014) argue that providing poor women with knowledge and information of affordable screening methods may result in massive uptake and utilisation among the poor.

Despite the arguments of Allen, Van Groningerg, Barksdale, and McCarthy (2010) that breast self-examination may not be exactly sensitive and specific to diagnose breast cancer, the truth is that BSE is still the cheapest and most readily available method of screening within the reach of women in low- resource countries, Semiglazov, Sagaidak, Moiseyenko and Mikhail (1993) and Thomas et al (1997), cited in Olowookere (2012) assert that BSE provides a unique opportunity for women to be breast aware and to detect breast problems. It is simple, inexpensive and effective. Clinical breast examination is also simple and inexpensive while mammography is complex and expensive but may enhance better prognosis. (Aldridge, 2005)

In Nigeria, the mass media channels have the power to reach heterogeneous audience and possess the potential to disseminate breast cancer messages. This is done by sensitising women on important health issues relating to them through mass media campaigns to influence health behaviour change in cancer screening and prevention among others. Media

campaigns starts with promotion, information dissemination and health discussions to change public opinion and eventual policy change by influencing perceptions and intentions, highlighting prevalence and consequences of risky behaviour (Yanovitsky and Stryker 2001; Okorie, 2013)

Mass media campaign is premised on the fact that success in behaviour change is more likely when the intention is to promote one-off/episodic behaviour, like taking vaccination and doing screening, but this is not very correct with breast cancer. Rather, for breast cancer, success is more likely when a campaign complement concurrent changes in available services, such as cancer screening. In addition, mass media campaign is more likely to succeed when campaigns obtain high population exposure, that is, maintains exposure over time and through multiple channels. Success in behaviour change is more likely when campaign messages are based on sound research of the target group and should be tested during campaign development to ensure that the change message is understood, persuades and convincing for uptake.(Okorie, Oyesomi & Adedeji, 2004)

Owing to the weaknesses inherent in using the mass media to effectively bring about change in health behaviour, the use of behaviour change communication (BCC) has been advocated. Creating, changing and adapting earlier methods and strategies of information, education and communication (IEC) to addressing behaviour change is the rationale behind the uptake of BCC. The BCC is an approach to behaviour change focused on communication.The assumption is that through the combination of Interpersonal and group communication platforms individuals and communities can somehow be persuaded to behave in ways that will make their lives safer and healthier. BCC programmes are designed to bring about behaviours that will improve health status and related long term outcomes. BCC is strategically designed programmes that influence behaviour. BCC interventions fall into three broad categories:

- Mass media   (radio, television, billboards, print materials, internet and so on).
- Interpersonal communication (client-provider interaction, group presentation)
- Community mobilization.

Any of these three communication strategies can generate the results measured by these core indicators: change in knowledge, attitudes, intentions and behaviour. BCC utilised a mix of media channels and participatory methods to communicate health behaviour change messages. Health behaviour change messages refer to the motivational, volitional and actional processes of abandoning health conditions and health - compromising behaviours in

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favour of adopting and maintaining health-enhancing behaviours (WHO, 2002). Basically, the goal of BCC is to understand the social structures that influence individuals' knowledge, attitudes and behaviours. Hence, a BCC intervention would take into serious consideration the demographics, socio-economic factors, epidemiology, politics, cultural and social norms of the target audience.

Moreover, BCC intervention takes cognisance of the values, concerns, needs, behaviours, habits, beliefs and difficulties of each target group. For BCC intervention to be successful, the skills and knowledge required of the intervention programme includes adequate knowledge of anthropology, sociology, psychology, social work, communication and education on the part of the interventionist/health educator. BCC embarks on training sessions to inculcate skills and knowledge in participants and often organises stimulation and discussion of group learning. A manual or module is usually created to address issues in behaviour change. To be effective, communication experts usually translate or even produce the manual or module in the first language of the target audience. (This was done in this study.) Modules designed for effective BCC is hinged on educating target groups to learn actively by participation and by doing exactly as instructed. This is because the devastastation that befalls women diagnosed with breast cancer remains inestimable, and early detection remains a major effective approach that should be employed to combat the disease. Several studies (Pasket,1999; Hodge, 2009; and Torbaghan, FamarFarma, Moghaddam & Zarei, 2014;) have attested to the positive impact of preventive behaviour change communication to create screening awareness as well as actual uptake of screening as a preventive measure for early detection of breast cancer for swift cure (Knowlden and Sharma, 2011;Ahmadian and Samah, 2012).

1.2   Statement of the problem

Lack of awareness and ignorance about the potency of breast screening has resulted in high morbidity and mortality rates among Nigerian women. Breast cancer is one of the major causes of cancer deaths among women worldwide and specifically in Nigeria with mortality figure of about 40 deaths per day and 1200 deaths per month.To reduce the scourge of the disease, it has been advocated that women should cultivate the habit of early detection through screening examination as a form of prevention aimed at improving women's health. Breast cancer screening is a form of health check to detect the illness at an asymptomatic stage.

However, owing to unawareness, family secrecy in women with history of BRCA 1 and poverty, most Nigerian women, particularly those with lower socio-economic status (including menial university workers) neglect or ignore the importance of breast cancer screening. This underscores the importance of behavioural change communication to bring about positive disposition towards breast cancer screening

Generally, many women in Nigeria are neither aware of the screening methods available for breast cancer nor are they aware of the need to regularly carry out breast screening exercise (BSE) or Mammography. Thus, reduction in mortality from breast cancer depends on successful interventions aimed at early detection and treatment through BCC. The efficacy of breast cancer screening is sufficient to advocate its uptake considering the fact that it is cost- effective and prolongs life. This has raised concerns. In this regard, BCC could be introduced to sensitize women, particularly those at the lower rung of the ladder of the society regarding the need for the uptake of breast cancer screening exercises. Although the literature discusses breast screening and its effectiveness among women generally, there is a dearth of studies on the use of the BCC in changing women's health behaviour towards breast cancer screening, particularly among those with low education and low income status. In addition, the literature has shown that the use of BCC for behavioural change could be affected by a number of factors, which include age and educational attainments of the individual recipients.

1.3 Objectives of the study

The study examined the effect of behavioural change communication on menial female workers' utilisation of breast cancer screening in Oyo and Osun states, Nigeria. The specific objectives were to:

1. Assess the awareness and knowledge of breast cancer disease and the consequences of breast cancer among female menial university workers.
2. Determine the awareness and knowledge of breast cancer screening among female menial university workers.
3. Ascertain the source of information about breast cancer screening,
4. Examine the methods of breast cancer screening adopted and utilised by female menial university workers.
5. Determine the effect of BCC on utilisation of BSE among female menial university workers

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6. Ascertain the effects of age and education attainment on the utilisation of BSE among female menial university workers.

1.4 Research questions:

The study provided answers to the following questions:

RQ1: What is the level of awareness and knowledge of breast cancer disease as well as its consequences among the female menial university workers?

RQ2: What is the level of awareness and knowledge of breast cancer screening among the female menial university workers?

RQ3: What are the sources of information on breast cancer screening among female menial university workers?

RQ4: What are the methods of breast cancer screening adopted and utilised mostly by female menial university workers?

1.5 Hypotheses

The following hypotheses were tested in the study:

$H0_1$: There is no significant main effect of Behaviour Change Communication on breast cancer screening

$H0_2$: There is no significant main effect of age on breast cancer screening

$H0_3$: There is no significant main effect of educational attainment on breast cancer screening

$H0_4$: There is no significant two-way interaction effect of treatment and age on breast cancer screening

$H0_5$: There is no significant two-way interaction effect of treatment and educational attainment on breast cancer screening

$H0_6$: There is no significant two-way interaction effect of age and educational attainment on breast cancer screening

$H0_7$: There is no significant three-way interaction effect of treatment, age and educational attainment on breast cancer screening.

1.6 Significance of the study

This study is significant because, it created significant awareness of the need for uptake of breast cancer screening as the antidote for breast cancer related morbidity and mortality. In addition, previous studies on community campaigns for promoting cancer

screening have largely been conducted in Western countries and non-African populations. However, for reasons of differences in culture, community identities, community participation and ownership between communities in Western and African countries, it is not possible to directly adopt the results of these Western countries, (Park, 2011; BMC, Public Health 2011)

Again, this study would create awareness regarding breast cancer screening and sensitise millions of unsuspecting women prone to the disease to engage in early screening and subsequently reduce mortality rate as a result of cancer. Moreover, the screening awareness would educate women with symptoms on how to effectively manage their condition if it is detected early and remedy is possible. This study will also help to relieve hospitals and professional health care personnel of the burden of caring for this group of people, especially when such patients present themselves late.

Furthermore, the study is significant because early detection will serve as a good source of health information for first degree family members of patients to seek help from the hospital early enough. In addition, the results of the study will expose the gap in previous strategies used in health behaviour change (HBC) and propose an effective strategy for communicating health behaviour change messages.

Most importantly, future intervention may apply the findings of the study to effectively communicate HBC to other categories of people to achieve reduction in morbidity from breast cancer.The study will serve as a veritable tool to discover the effectiveness of group communication in health information dissemination as well as help to demystify people's preconceived ideas about breast cancer. The study is significant because, through the behavioural change communication strategies employed, the study participants could utilise the two step communication theory of information dissemination which, in turn, would increase other people's knowledge about breast cancer and influence such people's acceptance of the accessible screening methods.

Also, the study will help the participants to know the appropriate places and people to turn to when in need of medical assistance. The study will also help health care professionals to adopt the group communication strategy in educating the masses about the issue of breast cancer screening. Above all, the study will alert the government about the need to make breast screening centres available and accessible to women of all categories in the country at affordable costs.

1.7   Scope of the study

The study examined the effect of BCC on menial female university workers' utilisation of breast cancer screening in Oyo and Osun States, Nigeria. The study was delimited to two universities because there is a general assumption that the various categories of workers within the university system are enlightened enough to personally attend to their health needs. In addition, the study was restricted to two foremost and prominent public and private mission universities in Oyo and Osun States. University of Ibadan was selected for the study because it boasts of a teaching hospital that has a breast cancer unit and is a notable cancer treatment centre in Africa. Bowen University was selected because it is a comparatively new private mission university with a newly built teaching hospital with relatively low concentration on breast cancer treatment.

The study was further restricted to female menial workers who were outsourced staff of the universities. The selection of the population of study and the restriction to female menial university workers was because although this women work within the university campus, they do not see themselves as part of the university community. They belong to the low socio-economic ladder and they are the poor category in the university, as attested to by their educational status and monthly wages. Besides, the study was delineated to cover a special behavioural communication therapeutic intervention which has a worldwide acceptability in the communication for development (C4D) paradigm.

1.8   Operational definitions of terms

Behaviour Change Communication (BCC): This is the use of behaviour and communication theories and research to develop interventions that influence menial female workers' behaviour and the social contexts in which they occur.

Breast cancer screening: This refers to tests and examinations used to detect breast cancer in female menial university workers who may not have noticed any obvious sign or any symptoms of the disease but who may have been infected. The cheapest and simplest method of breast screening is referred to as breast self-examination, a screening method that provides unique opportunity for women to become aware and to identify breast problems which may constitute danger to their health in the future. This is done by women themselves in the privacy of their homes.

Cancer: This is a malignant tumour/ulcer in various parts of the breast that may lead to death if not detected early.

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Chemotherapy: This is use of chemicals and pharmaceuticals to combat cancer and to provide respite for the affected women.

Familial: This means affecting several members of the same family but not necessarily passed down from one generation to another generation.

Female University Menial Workers: These are female workers at a lower cadre in Bowen University, Iwo Osun State and University of Ibadan, Oyo State, Nigeria, respectively.

Mammogram: This is a special x-ray machine for detecting breast cancer disease:

Utilization: This refers to adoption, knowledge and use of specific breast screening strategies by menial female university workers to detect lump.

CHAPTER TWO
REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Behaviour change communication (BCC) has been defined to mean the strategic use of communication to promote positive health outcomes which are based on proven theories and models of behaviour change. Basically, BCC employs a systematic process, beginning with formative research and behaviour analysis, followed by communication planning and implementation, as well as monitoring and evaluation. Audience are carefully segmented, messages and materials are pre-tested, and all forms of communication are used to achieve defined behavioural objectives. The poor outcomes for cancer diagnosis at an advanced stage have been the reason behind many investigations into techniques to detect the disease before symptoms manifest. Screening, a form of secondary prevention of cancer is aimed at improving outcomes through early diagnosis. Studies have shown that the benefits of screening far outweigh any harm attached to screening technologies. Besides, breast self-examination is free and can equally screen cancer before it erupts.

This chapter is devoted to examining and utilizing formulated theories to explain, predict and understand the breast cancer screening. In addition, in-depth review of related literature as well as empirical review of specific variables used in the course of this study is undertaken.

2.1   Nature of cancer

Cancer is the name given to a collection of related diseases. In all types of cancer, some of the body's cells begin to divide without stopping and spread into surrounding tissues. Cancer can start almost anywhere in the human body, which is made up of trillions of cells. Normally, human cells grow and divide to form new cells as the body needs them. When cells grow old or become damaged, they die, and new cells take their place. When cancer develops, however, this orderly process breaks down. As cells become more and more abnormal, old or damaged, they survive when they should die, and new cells form when they are not needed. These extra cells can divide without stopping and may form growth, lump or a mass called tumours; they are named after the part of the body where the tumour originates. Cancerous tumours are malignant, which means they can spread into, or invade, nearby tissue. (American Cancer Society, 2013)

In addition, as these tumours grow, some cancer cells can break off and travel to distant places in the body through the blood or the lymph system and form new tumours far

from the original tumour. Unlike malignant tumours, benign tumours do not spread into, or invade, nearby tissues. Benign tumours can sometimes be quite large; however, when removed, they usually do not grow back. Conversely, malignant tumours sometimes do.

Cancer is a genetic disease; that is, it is caused by changes to genes that control the way human cells function, especially how they grow and divide. Cancer has the ability to invade adjacent tissues and even distant organs. It can lead to the eventual death of the affected patient if the tumour has progressed beyond the state when it can be successfully removed. (American Cancer Society, 2013)

Human beings have, battling cancer since their existence. One of the first written descriptions of cancer and cancer treatment is found in an Egyptian papyrus dating from around 3000 B.C. Cancer is a public health problem worldwide affecting all kinds of people. (American Cancer Society, 2013) .Cancer can occur at any site or tissue of the body and may involve different types of cells. The term "primary tumour" is used to denote cancer in the organ of origin, while "secondary tumour" denotes cancer that has spread to regional lymph nodes and distant organs. When cancer cells multiply and reach a critical size, the cancer is clinically evident as a lump or ulcer localized to the organ of origin in early stages. As the disease advances, symptoms and signs of invasion and distant metastases becomes clinically evident (WHO, 1997).

There are different types of cancer. This study investigated breast cancer and how promotion and utilization of available screening methods can prevent or reduce breast cancer among common women.

2.2   The concept of breast cancer

The breast is the most common spot of cancer in women and Breast cancer is a kind of tumour that threatens a woman's life. A tumour is an abnormal enlargement of some parts of the body. It is a mass of tissues composed of unusual cells that have multiplied more than they should, that are not part of the body's normal design, and that serve no useful purpose. It is very common for some women to find swellings in the breast, which could start as a small lump in one breast, usually with no pain initially, but later the swelling could progress with enlargements, unbearable pains and stinging-like sensations.

The breast is the commonest site of cancer in women. Cancer is the leading cause of death for women aged 30 and above. According to American Cancer Society (2013) more than 3.5 million cases of cancer are diagnosed in the U.S every year and breast cancer

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incidence in the United States is 1 in 8 (about 13%). In 2011, an estimated 500,000 cases in new invasive breast cancer are expected to be diagnosed in women in the U.S. along with 67,770 new cases of non-invasive breast cancer. Also, about 2,761, new cases of invasive breast cancer will be diagnosed in men in 2020. (less than 1% of all new breast cancer cases occur in men). About 67,890 women in the U.S. are expected to die in 2020 from breast cancer.

Every woman is at some risk of developing breast cancer, being the most common cancer in women, accounting for 23% of all cancers, (Akpo, Akpo and Akhator 2009) A woman's risk of breast cancer approximately doubles if she has a first degree relative (mother, sister, and daughter) who has been diagnosed with breast cancer. The probability of developing the disease increases throughout life (Okediran 2005; Berner, Ayub, Kakil and Ibrahim 2008).

The World Health Organisation recorded that about 548,000 deaths occurred in 2007 as a result of breast cancer (WHO, 2008). Breast cancer incidence rose to 25.7% from 19.67% between 1981 and 1995, followed closely by cervical cancer (Durosinmi, 2004). In Jos, Plateau State of Nigeria, between 1995 and 2002, breast cancer was reported to account for 56.6% of all cases of cancer diagnosis (Akpo, Akpo and Akhator, 2009). Mortality cancer figure in Nigeria peaked 15.9% from 12.45% in 2002 according to Globacan (2002).

Breast cancer begins in the breast tissue that is made up of glands for milk production, called lobules, and the duct that connect the lobules to the nipple. Breast cancer typically is detected during a screening examination, before symptoms have developed, or after symptoms have developed, when a woman feels a lump and she is hospitalized (American Cancer Society, 2013). Most breast lumps turn out to be benign, that is they are not cancerous, do not grow uncontrollably nor spread, and are not life- threatening. When breast cancer is suspected, a clinical evaluation is necessary to confirm the diagnosis. Depending on the extent, breast cancer may be localized or invasive. Localized/in-situ cancer refers to the breast cancer that has not grown beyond the layer where it originated, while invasive is when the breast cancer has broken through the ductal or glandular walls and spread to the surrounding breast tissue.

Breast cancer has 4 stages: Stage 0 is in situ cases of non-spread; Stage I is early stage of invasive cancer; Stage II and III refers to medium and higher invasive cancer respectively and Stage IV is the advanced stage of invasive cancer. Breast cancer typically produces no symptoms when the tumour is small and it is most easily cured. Therefore, it is very

important for women to follow recommended screening guidelines for detecting breast cancer at an early stage. Also, when breast cancer has grown to a size that can be felt, the most common sign is a painless lump. Sometimes, breast cancer might have spread to underarm lymph nodes and caused a lump or swelling, even before the original breast tumour is large enough to be felt.

Other less common signs and symptoms include: breast pain or heaviness; persistent changes to the breast, such as swelling, thickening or redness of the breast skin; nipple abnormalities, such as spontaneous discharge, especially if bloody; and erosion, inversion or tenderness of the breast. However, pain or lack of it does not indicate the presence or absence of breast cancer. Any persistent abnormality in the breast should be evaluated by a physician as soon possible for, as of today, the cause of breast cancer is not known. The predisposition to breast cancer can be any of the factors mentioned below:

Age: the incidence of breast cancer increases with age until a woman is eighty years old. Approximately 80% of women aged 50 and above are susceptible (Oregon State Cancer Registry, 2003). It is relatively uncommon in younger women although ongoing studies are producing an incredible data of adolescent victims (Olowokere, 2012). It begins to increase significantly at approximately age 40. According to Olapade *et al*. (2004) the age range at which women develop breast cancer is 44 years and 51% of them are yet to reach menopause.

Family History: Breast cancer risk is higher among women whose close blood relatives have this disease. The relatives can be from either the mother's side or the father's side or another member of the family. Having a mother, sister or daughter with breast cancer doubles a woman's risk (Olapade, 2004).

Personal History: A woman with cancer in one breast has a greater chance of getting new cancer in the other breast or in another part of the same breast.

Race: White women (Asians, Hispanic, and Americans) and Africans are slightly more likely to die of cancer whereas Indian women have a lower risk of getting breast cancer.

 Menstrual Period: Women who have begun periods early (before 12 years of age) or who went through the change of life (menopause) after the age of 55 years have slightly increased risk of breast cancer.

Oral Contraceptives: In young women, oral contraceptives use confers a small term increase in breast cancer risk. The excessive risk disappears by the years after stopping contraceptive.

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Not having children: Women who do not have children or who had their first child at age 30 and above have slightly higher risk of breast cancer, while having been pregnant more than once and at an early age reduces breast cancer risk.

Other latent and inexplainable medical reasons may also be adduced for the incidence of breast cancer. The interest of this study is in creating breast cancer awareness among rural women as well as promoting the available screening methods to enable susceptible women to detect the disease early and thereby contain its spread to forestall morbidity and mortality.

2.3   Awareness of breast cancer disease among women

Many women in Nigeria are not aware of the screening methods available for breast cancer, such as breast self examination (BSE) and mammography, nor are they aware of the need to regularly carry out this exercise. (Azubuike and Okwuokei, 2013).Creating awareness among women in this regard requires concerted effort, with emphasis on the need to screen to achieve early detection of cancer. Because of poverty and ignorance, university female menial workers of lower socio-economic status underestimate the importance of curative medical care.

Olowookere, Onibokun and Oluwatosin (2012) submit that, despite the benefits of screening, many poor women the medically underserved and ethnic minority do not participate in screening owing to high cost and lack of awareness. Most women know and care little about health education and information, until they are faced with ill health. For some women, their physiological state does not matter and poses no question until the body refuses to function as expected; it is then that the search for medical help begins. Some other women are even afraid to discuss their biological problems and questions until when it is somewhat late, while those who bother when unhealthy look in the wrong places other than designated health centres.

2.4   Health consequences of breast cancer disease

The consequence of positive diagnosis of onset of breast cancer in any woman is devastasting regardless of medical assurance for management and survival. This is because a woman becomes overwhelmed with the fear of the known and the unknown. However, early detection remains a major effective approach that should be employed to combat and reduce or avert the consequences of breast cancer. Several studies have attested to the positive impact of preventive behaviour change communication to create screening awareness as well

as actual uptake of screening as a preventive measure for early detection of breast cancer for swift cure (Torbaghan et al. 2014; Knowlden & Sharma, 2011; Ahmadian & Samah, 2012).

In spite of the enormous benefits of screening for early detection of breast cancer, many women of low socio-economic status do not participate in screening owing to high cost and lack of awareness. In a study conducted among rural California American Indian women, it was discovered that cultural and socio economic barriers to breast cancer screening exist. These barriers include lack of knowledge regarding the need for breast cancer screening, as well as lack of knowledge regarding treatment and very high cost of medical care (Hodge, 2009).

Again in a study conducted among traders and full time housewives in Lagos State, Nigeria, Adetifa et al. (2009) found that breast cancer is prevalent within this category of poor and unemployed sit-at-home women. Further, in the study conducted by Wu, Tsu-Yin, Liu Yi-Lan and Chung Scott (2012) among women in China, the study reported a strong link between huge financial cost, beliefs, knowledge and awareness about utilization of breast cancer screening among women. This report is in consonance with a release by the Breast Health Global Initiative that indicated lack of public awareness of the importance of early detection of breast cancer and highlighted the importance of community and lay health officers to be involved in the sensitization and awareness creation programmes among the lowly and poor women. Azubuike and Okwuokei (2013) reported that, except knowledge regarding breast cancer is readily available and wrong beliefs about the disease countered women susceptible to breast cancer disease may not adopt screening methods as a potent strategy for early detection and reduction of breast cancer mortality.

2.5   The concept of cancer screening

Cancer screening is looking for cancer before a person has any symptoms. Screening tests can help find cancer at an early stage, before symptoms appear. When an abnormal tissue or cancer is found early, it may be easier to treat or cure it. By the time symptoms appear, the cancer may have grown and spread. This can make the cancer harder to treat or cure. The first cancer screening test was developed by George Papanicolaou in 1943 when he proffered a method of identifying precancerous and malignant cervical cells (Wardle, Robb, Vernon and Waller 2015). Screening is a form of prevention aimed at improving people's health; it is a form of secondary prevention aimed to improve outcomes through earlier diagnosis. (Wardle et al., 2015) Prevention is divided into primary, secondary and tertiary

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prevention. Primary prevention is modification of risk factors, such as smoking, diet, alcohol intake, before an asymptomatic stage of development of the disease so that its progression can be halted or retarded.

Secondary prevention is called screening which, in clear terms, means a deliberate search for any factor that predisposes one to a particular disease as well as a conscious effort to locate any alien growth within the body that is an obvious threat to good health (Wardle et al., 2015). Tertiary prevention refers to the rehabilitation of patients or treatment interventions once an illness has manifested itself.

Screening, which is regarded as secondary prevention takes the form of health checks, such as breasts self-examination (BSE), blood pressure measurement, height measurement, weight check, urine test, cervical smears and mammograms. There are 2 types, as observed by Ogden (2000); the first is *opportunistic screening* – seizing the opportunity (of hospital visitation) to examine or check out a patient and to measure any aspect of health which has the tendency to result in morbidity or mortality. The second is *population screening* – which involves setting up services specifically aimed at identifying erupting medical problems. A third type identified by (Oyewole, 2015) is *accidental/intervention screening*. This is screening done impromptu, without any special appointment particularly during a special project intervention or for research purposes.

According to Olaniyan (2004), screening is the application of simple inexpensive tests to large population of healthy persons in order to classify them as likely or unlikely to have a disease that is the object of the screen. There is evidence that screening for breast cancer has a favourable effect on mortality from breast cancer (Harvey, 1997). Methods that can be employed for the early detection of breast tumour include self- examination, clinical examination by physician, mammography, biopsy and genetic studies.

Screening became a popular facet of biomedicine in the 20th century. The drive to detect an illness at an asymptomatic stage of its development (secondary prevention) was evident across the Western world in 1900 (Williamson and Pearse, 1938; cited in Ogden, 2000). Screening received impetus from Multiphasic Screening, which became popular in the USA between 1940 and 1951, Sweden in 1969, Japan and Germany in 1970.
Beginning from 1973, the medical centre at King's Cross London, organized a computerized screening of 15,000 individuals a year for the purpose of detecting breast cancer, and carved out a working part in 1985 to consider the validity of breast screening (Ogden, 2000).

The screening programme in the United Kingdom, according to Forrest (1986), concluded that the evidence of the efficacy of breast cancer screening was sufficient to encourage screening as a tool for preventing untimely death with regard to other diseases. This led to the establishment and adoption of a screening programme with 3-year intervals. The rise and wide acceptance of screening programmes proclaimed it as an invaluable and productive means of improving the health of a country's population such as England (Morris, 1964; cited in Ogden 2000).

A number of studies have evaluated the effectiveness of interventions to increase rates of screening for breast cancer owing to its many advantages (Marcus and Crane 1998; Freeman and Chu, 2005) Screening is an invaluable and productive means of improving people's health. It is a cost-effective method of preventing any disease and provides statistics on the prevalence and incidence of a wide range of disorders and illnesses. Effective screening requires that the disease must be an important problem which can be recognized at the latent or early symptomatic stage, with clear notary history from patient. Also, suitable test or examination of reasonable sensitivity and specificity must be carried out while the population endorses screening, which must be a continuous process. In addition, there must be adequate facilities for assessment and treatment which must be acceptable by all concerned and it must be economically balanced in relation to possible expenditure on medical treatment at large. Besides, the disease must be sufficiently prevalent and serious to make early detection appropriate and the screening test must have good sensitivity and be geared for positive predictive value in the target population.

Wilson (1965), cited in Ogden (2000) outlines the following screening criteria: *the disease*- it must be sufficiently prevalent or sufficiently serious to make early detection appropriate; *the screen*- the disease must be sufficiently well defined to permit accurate diagnosis; *follow-up*- there must be a possibility or probability that the disease exists undiagnosed in many cases as well as *economy*-there must be a screening test that has a good sensitivity and specificity and a reasonable positive predictive value in the population to be screened. The numbers of individuals who attend different screening programmes vary greatly and it is determined according to factors such as the country, the illness being screened and the time of screening programmes. Maclean (1984) observes that women who attended breast screening are more likely to be of high socio-economic status, more sympathetic to screening and more likely to have suffered less anxiety following the invitation/recommendation to attend.

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Owens (1987) avers that age and gender have also been suggested as important factors for uptake of screening and older women are more likely to attend breast screening than younger women. It is crucial for health educators and professionals to promote screening at all times because belief in the effectiveness of screening was associated with an organized approach to screening and time spent on screening (Harelock, 1988).

2.6   Breast self-examination (BSE)

Women should observe their breasts while sitting, standing or laying down with arms at both sides and overhead especially for presence of skin and nipple abnormalities. These abnormalities may become more obvious by raising both arms overhead or by pressing the hands on the hip. With the help of the fingers, the breast should be palpated while lying down on the back with pillow at a level ground meticulously, methodically, and gently. Abnormal variations in breast size and any sign of redness or retraction of the skin are best identified by careful observation in good light. As a result of screening, about 5-10% of cases of breast cancer have been discovered during physical examination for other purposes.

Breast self-examination is a cheap, easy, physical and manual method for early detection of breast tumours and it protects women from the development and later complications of the disease. Thus, knowledge and consistent practice could protect women from severe morbidity and mortality arising from breast cancer (Frank, 2004). Education of women to perform breast self-examination should be the main objective of cancer societies worldwide.

Evidence indicates that regular BSE may reduce breast cancer morbidity by 18% yet most women do not practise it. Park (2002) notes that the level of awareness about BSE is low and even those that are aware do not know the correct steps in BSE and often those aware of the correct steps do not perform it regularly. This has resulted in the high rates of mortality and morbidity from breast cancer. In a study conducted and reported by Salazar, (1994) and Michielutte (1999) among American women aged 21-65 years, who have performed BSE it was discovered that of 719 women aged 60 years and above, only 73% had been been taught BSE and only 41% had performed BSE. (Skaer, 1996)

Data from North America suggests that there is a reasonable public awareness of the importance but compliance with regular BSE is reported by a minority of young women (Wardle, 1995). Also, Tanjaisiri(2002) reported that, among Togan-American women aged 40 and above, only 40% had ever performed BSE; whereas, among Vietnamese women in

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Texas, 55% had performed BSE, compared to other studies which reported low level of awareness (Ho, 2005).

Report from the United Kingdom is not so different. Among students aged 17-30 years from 20 European countries in a sample of 16,486, 54% reported never having practised BSE, only 8% practise regularly, while 36% practiced occasionally. In the United Kingdom, women are encouraged to be breast aware from the age 18 but they do not engage in BSE. (Wardle, 1995).

In a study conducted among 193 nurses in Poland, 63% knew almost everything about BSE, while only 50% did BSE but not correctly (Frank, 2004). This indicates that, despite medical education, nurses are not knowledgeable enough to do breast self examination correctly and consistently. From a sample of women aged 20-64 years, living in ten cities of (Northern Italy) only 58% practise BSE (Ferro, 1992). Despite medical education and seemingly easy access to medical services, a study by Kulk (2003) among nurses in Dublin showed inadequate knowledge about the disease and lack of individual preventive actions by nurses, as only 24% of them performed regular monthly BSE. Petro- Nustus and Mikhaut (2002) reported that, among 519 women from two major universities in Jordan, 67% had heard or read about BSE; only 25% had ever practiced BSE in the previous 12 months and only 7% performed it on a regular monthly basis.

In German among 532 women 84% were well informed about BSE; while only 43.1% practise BSE every month. In a study conducted by Aslaif (2004) and (Wuyet) 2005 among female nursing students, only 66% performed BSE. Among 109 patients of a university maternity hospital, in the city of Natal, 54% practised BSE (Davin, 2003). Also among 410 female health workers in Tehran, Iran, only 63% claimed to know how to perform BSE, while 6% performed it monthly.

The situation in Nigeria is not different. In a study conducted among female school teachers in Lagos, Nigeria, 62% practised BSE with 11% on a monthly basis (Odusanya, 2001). Also, in a study carried out by Balogun and Owoaje (2006) among female traders in Ibadan, Oyo State, less than one third of the respondents (31.7%) were aware of BSE.

According to Jebbin and Adoley (2004) only 85% of the 200 women studied in Port Harcourt had heard of BSE, but only 39% practiced BSE occasionally, while 24% did not practise it at all. In a similar study among 76 health workers, 60% of doctors and 53.7% of nurses practise BSE occasionally, while only one doctor could describe how to perform it correctly (Jebbin and Adoley, 2004).

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The importance of knowing how to perform BSE correctly lies in its ability to detect masses that may be missed on mammography. Up to 15-18% of mammograms are negative in the presence of palpable cancer; detect interval lesions that may appear between the patient's screening mammograms; or evaluate a lump discovered by the patient on BSE. Ideally, the clinical breast examination (CBE) should take place one to two weeks past the onset of menstruation. The examination should be conducted unhurriedly in a setting that allows for minimal distraction and adequate patient privacy. (Oregon Breast and Cervical Program, 2003).

2.7   Mammography

This is a soft tissue x-ray of the breast. It is indicated for routine screening with or without complaints from women (above 35 years), the evaluation of a breast lump and the evaluation of the opposite breast. Searching for hidden cancer in those who have metastasis without a mammography should be done between 35 and 40 years every 2 to 3 years, between 40 and 49 years annually and above 50 years more often since they stand a higher risk of being victims (Oregon Breast and Cervical Program, 2003).

There are studies in which mammography was used as a screening method for the detection of breast cancer. Ferros (1992) reported that only 9% of women aged 20-64 years living in Northern Italy had had a mammography, which is very low compared to 45% reported among Vietnamese women living in Texas. In Germany, only 55.5% of the women had a mammography (Kluge 2005) Franok et al. (1998) reported that only 33% had mammography among nurses taking part in qualifying courses. This is low bearing in mind their medical exposure and background.

Among women in California, only 25% received yearly mammograms (Tanjasiri, 2001) while only 50% of women attending rural and urban primary care clinics had mammograms in the past year (Michielutta. 1999). Also, among Hispanic women 40 years and above, 38% had never heard of mammography, only 30% had received a mammography and only 30% had it in the prior 2 years (Skaer, 1996). Also, Odusanya and Taiwo (2001) reported that only 8% of nurses in Lagos, Nigeria had a mammogram in the last three years.

According to Okoye (2004), regular mammography screening is not possible in Nigeria due to lack of equipment and enough trained personnel. In some cases, the available machines are the ones discarded from other centres abroad and this result in increased patient radiation dose and poor image quality. Research has demonstrated that, for women 40 years

and above, utilisation of mammography screening for early detection of breast cancer can reduce mortality from this disease by up to 30% (Urban and Taylor, 1993). Given the foregoing picture, it is clear that certain elements must be put in place to sensitize the susceptible populace for the need to know and change their attitude towards their health and to utilize the knowledge positively to their advantage. To achieve this, effective and rapid communication paraphernalia must be employed in message dissemination. In this regard, the platforms of interpersonal communication within a group come to the fore.

2.8   Awareness and knowledge of breast cancer screening

To educate the poor about screening methods, the intervention programmes must be specific. Pasket (1999) classifies intervention methods for screening for breast cancer with emphasis on mammography into community-based and practice-based. Practise-based intervention is both clinic-based and predicated on medical model, while the community-based method includes engaging the community as a setting, an agent, target and a resource.

McLeroy et al. (2003) divide intervention programmes into tailored and target intervention. Target interventions are generic in nature and attempt to address common factors among population subgroups using mass media campaigns, print formats and many more. Kreuter et al. (2005) emphasize that tailored intervention employs behavioural construct to tailor and customize health behaviour change messages based upon participants'/demographics and responses. Allen & Bazargan-Hejazi (2005) posits that tailored counselling, knowledge and information dissemination allow researchers to employ direct health tactics on a large scale. Incorporating culture into tailored breast cancer prevention and control intervention may increase their effectiveness in diverse populations. Krueter et al (2005). Participants in the tailored interactive group demonstrated more significant forward movement in their stage of mammography readiness. Champion et al (2006)

Lay health advisors (LHAs), also referred to as community health advisors (CHAs), peer volunteers, peer educators, lay health educators or lay community health workers play an integral role in tailored community based interventions. Earp et al. (2002) submitted that LHAs effectively serve as links between the professional health care system and the community. Moreover, Mayo et al. (2004) posit that LHAs have the unique position to access medically underserved populations and possibly prevail on them to utilize available screening

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methods. LHAs are in a unique position to offset barriers frequently associated with screening methods. (Kidders, 2008)

Earp et al. (2002) list the following as the advantages inherent in utilising LHAs for screening intervention purposes. Firstly, they are viewed as peers and thus are more adept to engage intervention participants and assist them in overcoming community- specific barriers. Secondly, they are able to interact within the community's social networks spontaneously and informally. Thirdly, they have a connectivity that offers the potential for the intervention to have an ongoing, spill-over effect in the community. Fourthly, they are entrenched in the community's social networks and they possess the unique ability to influence beliefs, attitudes and behaviours of numerous community social groups.

This study adopted the tailored intervention approach. It used a lay health advisor, in the researcher supported by medical professionals who disseminated the information to the specific target female menial workers in the two universities studied.

2.9   Sources of information about breast cancer screening

In Nigeria, the mass media channels have the power to reach heterogeneous audience as well as possess the potential to fashion breast cancer messages and report the same.This is done by sensitising women on important health issues relating to them through mass media campaigns to influence health behaviour change in cancer screening and prevention among others. However, little success has been recorded in the use of mass media campaign strategies over the years. This is because while utilising mass media campaigns/platforms to change behaviour, continuation of the screening exercise tends to suffer setbacks. (Kreps, 2008; Kreps and Sivaram 2009; Wakefield, Loken and Hornik 2010; Okorie, Oyesomi and Adedeji 2014)

Essentially, mass media campaigns create and place messages in the media that reach large audiences while exposure is passive. This, reflects mere routine use of mass media. Media campaigns start with promotion, information dissemination and health discussions to change public opinion and eventual policy change by influencing perceptions and intentions, highlighting prevalence and consequences of risky behaviour (Yanovitsky and Stryker 2001; Okorie 2013)

Behaviour Change Communication (BCC) came into being due to the inadequacies of both the mass media campaign and the efforts of Information, Education and Communication (IEC) strategies hitherto employed by health educators and health promoters. Creating, changing and adapting earlier methods and strategies of Information, Education and

Communication to address behaviour change is the rationale behind the uptake of Behaviour Change Communication.

2.10   Methods of breast cancer screening

Many communication initiatives have succeeded in enhancing public awareness, but have failed in going beyond awareness to stimulating positive change in attitudes and practices toward creating lasting social change. Communication to acheive enduring behaviour change among individuals, groups and communities with a lasting effect must be deliberate, inclusive and premised on data from research findings. Further, communication must employ multiprong approaches; policy advocacy, social and community mobilization, interpersonal communication, group communication and more. Behaviour change communication (BCC) has become a central objective of public health interventions over the last half decade, as the influence of prevention within the health services has increased to implement behaviour change for development.   The increased influence of prevention correspond with improved mutual and bi-lateral aid in the areas of individual growth and the need for the global community to show tangible result for allocated funds expended

BCC is a research-driven approach for promoting and sustaining behaviour change in individuals and communities, and is implemented through the development and distribution of specific health messages via a variety of communication channels. It is a process of any intervention with individuals, communities and societies to develop communication strategies to promote positive behaviours which are appropriate to such settings.

BCC is providing people with information and teaching them how they should behave in a desirable way. It has proved to be an instructional intervention which has close interface with education and communication. It is a strategic, group-oriented form of communication to achieve a desired change in behaviour of a target group. The strategy for it will vary from group to group. The following are important for the BCC strategy: vulnerability or risk factor of the target group; vulnerability or risk factor of the target group which is to be addressed; the conflict and obstacles in the way to desired change in behaviour; type of message and communication media which can best be used to reach the target group; type of resources available and assessment of existing knowledge of the target group about the issue which is going to be dealt with.

BCC is critical to the prevention, management and treatment of many important health conditions. There has been steady complexity in rapid translation of basic science discoveries

into effective interventions. One method of overcoming this issue is to create a pipeline, similar to the model employed by the pharmaceutical industry, in which the translation of basic science can be supported as it moves to intervention. Hence, as with development of more effective drugs; surgical techniques and medical devices, the development of more powerful health-related behavioural interventions is dependent on improving the understanding of human behaviour, and then translating that knowledge into new and more effective interventions with enduring effects.

Formerly, health intervention attempts employ the Information education and communication (IEC) approach to reach their target audience. However, there has been a paradigm shift in the last two decades to BCC. The IEC method became ineffective all by itself. A new concept called BCC emerged. BCC has become the main focus of public health involvement since the beginning of 2010 and this has increased the attention given to it within the health services sector. The pervasiveness of the influence of prevention correlates with the goals of the Millenium Development Goals (MDGs) for individual and global development.

There are many and varied definitions of BCC. Basically, BCC is a research- driven approach for promoting and sustaining behaviour change in individuals and communities, and is implemented through the development and distribution of specific health messages via variety of communication channels (Rahman, Leppard, Nasreen, and Rashid 2011). Rahman et al. (2011) corroborates that behaviour change communication uses behavioural and communication theories and research to develop interventions that influence individual behaviours and the social contexts in which they occur. This is done in a bid to understand the social structures that influence individuals' knowledge, attitudes and behaviour.

In addition, BCC advocates must be aware of the values, concerns, needs, behaviours, habits, beliefs and difficulties of each audience. BCC is best located in the gamut of single or multi communication approach to achieving significant success.

2.11 Interpersonal communication.

Interpersonal communication is exchange of information between two or more people. This involves message sending and message receiving. This can be conducted using both direct and indirect methods. Successful interpersonal communication is when the sender and the receiver understand the message. Interpersonal communication involves face-to-face conversations and activities between different categories of people, such as husband and wife,

teacher and student as well as physician and patient. Interpersonal communication can drive behaviour change, especially when it is done within a group. The personal touch means that communication experts can introduce behaviour and attitude change messages at just the right time. A combination of interpersonal communication and group communication can bring about lasting behaviour change.

Moreover, interpersonal communication is humanity's most important characteristic and its greatest accomplishment. It is humans' ability to turn meaningless grunts into spoken and written words, through which humans make known their needs, wants, ideas and feelings. Interpersonal communication is a complex process that can be described in simplified terms by a sender and a receiver who exchange messages containing ideas and feelings, mixed together. The sender encodes the messages using verbal, vocal and visual elements. The words form the verbal element, while the vocal element includes the tone and intensity of voice articulated in language form. The visual element incorporates everything the receiver can see because it is a non-verbal element and powerful element for getting receiver's attention. The receiver takes in the messages and decodes them by sorting out and interpreting the elements according to someone's experiences, beliefs and needs. Essential ingredients of interpersonal communication are the communicators, message, channel, noise, context and feedback. For interpersonal communication to occur there must be at least two people involved, that is, a sender and a receiver of the message otherwise known as the communicators. However, the problem with this view is that it presents communication as a one-way process where a person sends a message and another receives it .Conversely, communication is an interactive process in which one person talks, the other listens and while listening, exchanges non-verbal feedback and, subsequently, the cycle rotates and the listener eventually becomes the speaker and vice-versa throughout the period of the communication exchange.

The Message: Message not only means the speech used or information conveyed, but also the non-verbal messages exchanged such as facial expressions**,** tone of voice**,** gestures and body language. Non-verbal signals can convey additional information about the spoken message. In particular, it can reveal more about emotional attitudes which may underlie the content of speech communication.

Channel: The channel refers to the physical means by which the message is transferred from one person to another. In face-to-face context, the channels which are used are speech and vision.

Noise: Noise has a special meaning in communication relationship. It refers to anything that distorts the message, in such a way that what is received is different from what is intended by the speaker. Physical noise can interfere with communication, use of complicated jargon**,** inappropriate body language, inattention, disinterest and cultural differences can be considered noise in the context of interpersonal communication. In other words, any distortions or inconsistencies that occur during an attempt to communicate can be seen as noise.

Context: Communication is influenced by the context in which it takes place. However, apart from looking at the situational context of where the interaction takes place, the social context also needs to be considered, for example the roles, responsibilities and relative status of the participants. The emotional climate and participants' expectations of the interaction will also affect the communication encounter.

Feedback: This consists of messages the receiver returns, which allows the sender to know how accurately the message has been received, as well as the receiver's reaction. A receiver may also respond to the unintentional message as well as the intentional message. Feedback messages range from direct verbal statements, to subtle facial expressions or changes in posture that might indicate to the sender that the receiver feels uncomfortable with the message or otherwise. Feedback allows the sender to regulate, adapt or repeat the message in order to improve communication.

Principally, Interpersonal communication is inescapable, irreversible, complicated and contextual. We cannot but communicate in fact; the very attempt not to communicate is communicating something. Communication is not only words since we constantly communicate to those around us through the channels of tone of voice, gesture, posture, facial expression, and many more. Interpersonal communication is irreversible meaning it is not possible to take back something once it has been said. Interpersonal communication is also complicated that is no form of communication is simple, particularly in interpersonal relationship. Hence, due to the number of the variables involved, complexity in meaning and interpretation set in. Thus, if communication is not specific and explicit, it may fail. In other words, communication does not happen in isolation. It may have psychological, relational, situational, environmental, and cultural contexts.

Group communication is between 3 and 20 individuals for a small group and may be regarded as interpersonal communication within a group. Groups generally work in a context that is both relational and social. Quality communication such as helping behaviours and

information-sharing causes groups to be superior to the average individual in terms of the quality of decisions and effectiveness of decisions made or actions taken. However, quality decision-making requires that members both identify with the group and have an attitude of commitment to participation in interaction.

2.12 Group communication

Group communication refers to the interaction between members of a small group of individuals with a facilitator. Communication in a group has the potential of exponential growth since a major characteristics of a group is not just focus on relationship building but on some sort of task completion and goal accomplishment. A significant benefit of communication in a group is synergy. (Ellis and Fisher, 1994). In this regard, members in a group have the potential to gain in performance as well as heightened quality of interactions when complementary member's characteristics are added to the existing ones. The platform for sharing of information, decisions as well as reinforcement of newly acquired information is created through group communication. Given the feature of interdependence in a group, a common identity, purpose and same faith is shared. (Larson, 2010). Basically, communicating in a group meets instrumental need of enriching the existing knowledge of a phenomenon as well as provide information that may be utilized for security and protection. Again, group communication meets interpersonal needs by giving access to inclusion, control and support.

In addition, effective communication in a group satisfies identity needs by creating building blocks for social inclusion and acceptance. There are many types of sizeable groups but the most common distinction made is between task- oriented groups and relation-oriented groups. Task oriented groups are formed to solve a problem, promote a cause, or generate ideas or information for immediate and future benefits of members. (Mckay, Davis and Fanning, 1995).

Group cognition, as posited by Stahl (2004), is a proposal for a new science or focus within the human sciences. Thus, when small groups engage in cooperative problem- solving or collaborative knowledge building there are distinctive processes of interest at the individual, small group and community levels of analysis, which interact strongly with one another. The science of group cognition is the study of the processes at the small-group level which deals with human meanings in unique situations necessarily relying upon interpretive case studies and descriptions of inter-personal processes.

Group discussion has many returns, in that it enhances information dissemination and reception in both the affective and cognitive domains. It is both recipient and subject-centered. It stimulates receiver to think about issues and problems discussed. In addition, it provides opportunity for sharing, fosters positive group support, increases feeling of belonging and reinforces previous knowledge, if any.

This study, a non-laboratory experiment, investigated the small group phenomena without isolating the study subjects from their natural habitats. The group consisted of women who were individuals and who made individual contributions to the study discourse based on their understanding. In addition, the group operated and existed within community and social contexts drawing upon personal exposure to breast cancer issues. This is an essential feature of a real world context and it was considered inappropriate to exclude them by confining the interaction to a controlled laboratory setting. The women were not controlled in any way. The participants' liberty was not compromised but they felt comfortable as if in a natural setting. This was in addition to obtaining a signed consent form of voluntary participation from each participant.

Vygotsky (1930;1978) argue that learning takes place inter-subjectively (in dyads or triads) before it takes place intra-subjectively (by individuals). In this sense, the science of etnomethodology, according to Garfinkel (1967), is based on the fact that people in a given culture or linguistic community share a vast repertoire of social practices for accomplishing set objectives or tasks. Maxwell (2004) opines that the analysis of unique case studies can result in the description of social practices that are generalizable. This is to say that the methods developed in specific situations are likely to be typical of a broad range of cases under similar conditions. Stahl, (2006) states further that; 'small groups are the engines of knowledge building'. The knowledge that groups build up in manifold forms is what becomes internalized by their members as individuals.

2.13   BCC and utilisation of breast cancer screening

Behaviour change communication came into being due to the inadequacies of both the mass media campaign and the efforts of Information, education and communication (IEC) strategies employed by health educators and health promoters. Creating, changing and adapting earlier methods and strategies of IEC to addressing behaviour change is the rationale behind the uptake of BCC.

Behaviour change communication is an approach to behaviour change focused on communication. The assumption is that, through the combination of interpersonal and group communication platforms, individuals and communities can somehow be persuaded to behave in ways that will make their lives safer and healthier. BCC programmes are designed to bring about behaviours that will improve health status and related long term outcomes. BCC is strategically designed programs that influence behaviour, BCC interventions fall into three broad categories:

- Mass media (radio, television, billboards, print materials, internet and so on.),
- Interpersonal communication (client-provider interaction, group presentation),
- Community mobilization.

Any of these three communication strategies can generate the results measured by these core indicators; change in knowledge, attitudes, intentions and behaviour. BCC utilises a mix of media channels and participatory methods to communicate health behaviour change messages. Health behaviour change messages refers to the motivational, volitional and actional processes of abandoning health conditions and health compromising behaviours in favour of adopting and mainting health-enhancing behaviours (WHO, 2002)

Information, education and communication essentially involve talking and encouraging people, patients, and communities through the medium of interpersonal, group and mass media, but this seems to be inadequate in effecting behaviour change in target audience. Basically, the goal of BCC is to understand the social structures that influence individuals' knowledge, attitudes and behaviours. Hence, a BCC intervention would take into serious consideration, the demographics, socio-economic factors, epidemiology, politics, cultural and social norms of the target audience. Moreover, BCC intervention takes cognisance of the values, concerns, needs, behaviours, habits, beliefs and difficulties of each target group.

2.14 Age and utilisation of breast cancer screening

The incidence of breast cancer increases with age until a woman is eighty years old. Approximately 80% of women aged 50 and above are susceptible (Oregon State Cancer Registry, 2003). It is relatively uncommon in younger women although on-going studies are producing an incredible data of adolescent victims (Olowokere 2012) Breast cancer begins to increase significantly at approximately age 40. According to Olapade *et al*. (2004), the age range at which women develop breast cancer is 44 years and 51% of them are yet to reach

menopause. Studies have shown (Maclean, 1984) that women who attend breast screening are more likely to be of high socio-economic status, more sympathetic to screening and to have suffered less anxiety following the invitation/recommendation to attend. Age and gender have also been suggested as important factors for uptake of screening. Owens, (1987) notes that older women are more likely to attend breast screening than younger women. Evidence from North America suggests that there is a reasonable public awareness of the importance but compliance with regular BSE is reported by a minority of young women (Wardle, 1995). Also, Tanjaisiri, (2002) found that among Togan-American women aged 40 and above, only 40% had ever performed BSE. Among Vietnamese women in Texas, 55% had performed BSE, compared to other studies which recorded low level of awareness (Ho, 2005).

2.15   Educational attainment and breast cancer utilization

Despite medical education and theoretically easy access to medical services, a study by Kulk (2003) among nurses in Dublin showed inadequate knowledge about the disease and lack of individual preventive actions by nurses, as only 24% of them performed regular monthly BSE. Petro Nustus and Mikhaut (2002) reported that, among 519 women from two major universities in Jordan, 67% had heard or read about BSE; only 25% had ever practiced BSE in the previous 12 months and only 7% performed it on a regular monthly basis.

In Germany of 532 women, 84% were well informed about BSE, only 43.1% practised BSE every month. In a study conducted by Aslaif (2004) and Wuyet (2005) among female nursing students, only 66% performed BSE. Among 109 patients of a university maternity hospital, in the city of Natal, 754% practised BSE (Davin, 2003). Also among 410 female health workers in Tehran, Iran, only 63% claimed to know how to do BSE, while 6% performed it monthly.

The situation in Nigeria is not different. In a study conducted among female school teachers in Lagos, Nigeria, 62% practised BSE, with 11% on a monthly basis (Odusanya, 2001). In a similar study among 76 health workers, 60% of doctors and 53.7% of nurses practiced BSE occasionally, while only one doctor could describe how to perform it correctly (Jebbin and Adoley, 2004). The fact that these individuals were educated afforded them the opportunity of engaging in BSE having been aware of the immense advantages of doing so. This means that being educated enhances the uptake of breast screening methods among those that are aware of it. The findings of this study lends credence to this fact that, truly,

literate and enlightened female menial workers find it convenient to utilize the knowledge of breast self-examination as taught in the study intervention programme.

2.16   Theories reviewed for the study

This work reviewed three major theories; Diffussion of Innovation, Theory of Planned Behaviour and Health Belief Model, that are popularly employed to study and predict health-related behaviour change. This is in conformity with previous studies in this regard (Fishbein and Ajzen, 1975; Rosenstock et al., 1994; Prochaska and Velicer; 1997, Ajzen,1998; Smedslund, 2000; Armitage and Conner, 2000; Ajzen, 2002; Burrkholder and Nigg, 2002; Noah and Zimmerman, 2005; Taylor, Bury, Campling, Carter, Garfield, Newbould and Rennie, 2006).

2.17   Diffusion of innovations theory

Everett Rogers (1962) propounded the diffusion of innovations (DOI) theory, and it has since evolved and developed as a communication theory. Although it is deeply rooted in anthropology and sociology, it explains how new ideas and practices spread within and between communities (Tarde, 1903, Bailey 1957;1975) The theory is used in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. Consequently, as a result of the diffusion, people, as part of a social system, adopt a new idea, behaviour, or product. This means that people adopt or start to do something differently. It marks a new beginning and utilisation of something new. An innovation is an idea, behaviour, object that is perceived as new by its audience (Kinaid 2004). Innovation can be defined as all scientific, technological, organizational, financial and commercial activities necessary to create, implement and market new or improved products or processes (OECD, 1997). For adoption to take place, the person must recognize the initiative, lifestyle, behaviour, or item for consumption as new or innovative. It is in the course of this that diffusion is achievable.

The key elements of diffusion of innovations are; innovation, communication channels, time and social system (Mahagan, Muller and Bass, 1990). Diffusion theory advocates that innovation can reach the poorest people since it is a natural phenomenon that happens. Whether the innovation involves a new idea, a new pattern of behaviour or a new technology, it is a natural physical phenomenon that describes the spread of an object in space and time. This study employed the method of the diffusion of innovations theory to spread the new idea

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of breast self examination by hitherto unreached segment of the society, the female menial workers in Oyo and Osun States of Nigeria. Klein (1999) observes that ideas confine a man to certain social groups and social groups confine a man to certain ideas. Many ideas are more easily changed by aiming at a group than by aiming at an individual and truly the diffusion of innovations method has been used to spread new ideas and practices in a wide variety of settings.

The basic premise, confirmed by empirical research, is that new ideas and practices spread through interpersonal contacts largely consisting of interpersonal communication. (Ryan & Gross 1943; Beal and Bohlen 1955, Katz; Levine and Hamilton 1963; Hagerstrand 1967; Rogers 1995, Valente and Rogers 1995; and Valente 1995). Given the importance of interpersonal contacts in diffusion, this study relied on methods of network analysis. Network analysis is a set of methods that enables researchers to locate individuals who are more central to a community and thus perhaps more influential to initiate the diffusion of a new idea or practice. (Limas et al. 1991; Wiist and Snider 1991; AAPSS, Annals, 566). Leaders who employ interventions designed to use interpersonal communication for promoting behaviour change are often referred to as peer influence, peer education, interpersonal counselling, outreach or peer networks. Implicit in the peer promotion model is the assumption that some individuals will act as role models for others directly or indirectly. (Broadhead et al. 1995).

Moreover, the diffusion of innovation theory is the process by which an innovation is communicated through certain channels over time among members of a social system or defined social class, such as the female menial workers selected for this study. It is a 5- step process.

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PRIOR
CONDITIONS
1. Previous practice
2. Felt needs/problems
3. Innovativeness
4. Norms of the social
systems

COMMUNICATION CHANNELS

I.
KNOWLEDGE

II.
PERSUASION

III.
DECISION

IV.
IMPLEMENTATION

V.
CONFIRMATION

Characteristics of the
Decision-Making Unit

1. Socioeconomic
characteristics
2. Personality variables
3. Communication behavior

Perceived Characteristics of
the Innovation

1. Relative advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

1. Adoption

2. Rejection

Continued Adoption
Later Adoption
Discontinuance
Continued Rejection

- Knowledge- The female menial workers become aware of how to perform breast self-examination.

- Persuasion- The female menial workers form a favourable attitude toward the innovation(breast self- examination)

- Decision- The female menial workers engage in breast self- examination activities that lead to a choice to adopt the continuous practice of the innovation.

- Implementation- Female menial workers put breast self- examination innovation to use.

- Confirmation- Female menial workers evaluate the results of breast self- examination innovation decision already made and progress positively in this regard.

Variables Determining the Rate of Adoption of Innovations

1. Attribute of innovations

Relative advantage	• The degree to which an innovation is perceived as better than the idea it supersedes. • The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption.
Compatibility	• the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.
Complexity	• The degree to which an innovation is perceived as difficult to understand and use.
Trialability	• the degree to which an innovation may be experimented with on a limited basis. If an innovation is trialable, it results in faster adoption.
Observability	• the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt.

Essentially, the diffusion of innovation theory allows for compatibility, trialability, observability, homophily and the specific channels for communicating the innovation. Compatibility is the degree to which breast self- examination is perceived as being consistent with past experiences and existing values, costs less, and improves in some other manner upon existing practices, as well as the needs of potential adopters. An innovation must be considered socially acceptable to be implemented. Trialability is the degree to which breast self-examination may be experimented with on a regular and consistent basis. Obsevability is the degree to which the results of breast self- examination practice is known and visible first to the receiver and to others. The concept of homophily, that is similarity in socio-economic characteristics of the female menial workers, influences effective dissemination of the utilisation of BSE by the target group. The channels of interpersonal and group communications strengthen the effective dissemination of the need for breast self - examination by female menial workers in the intervention group. (Apperson and Wikstom, 1997)

In conclusion, the major debate is about what efforts are most successful in encouraging the spread of an innovation. Is it Mass media or through interpersonal

communication within a specific social class? Truly, the mass media can spread knowledge of innovations to a large audience rapidly, but does this translates to the acceptance and utilisation of this innovation on a continuous and consistent basis? Rogers (1995) maintains that persuading opinion leaders is the easiest way to enforce positive attitudes towards an innovation. The types of opinion leaders that effect changes are dependent on the nature of the social system. Interpersonal ties are usually more effective in the formation and change of strongly held attitudes. Research has show that firm attitudes are developed through communication exchanges about the innovation with peers and opinion leaders. These channels are more trusted and have greater effectiveness in dealing with resistance or apathy on the part of the receivers. Change agents, must, if possible, communicate to opinion leaders a convincing argument in favour of the innovation that accentuates the compatibility of the innovation system norms. Hence, this study submits that interpersonal communication within a group is a veritable platform for behaviour change communication.

2.18 Theory of Planned Behaviour.
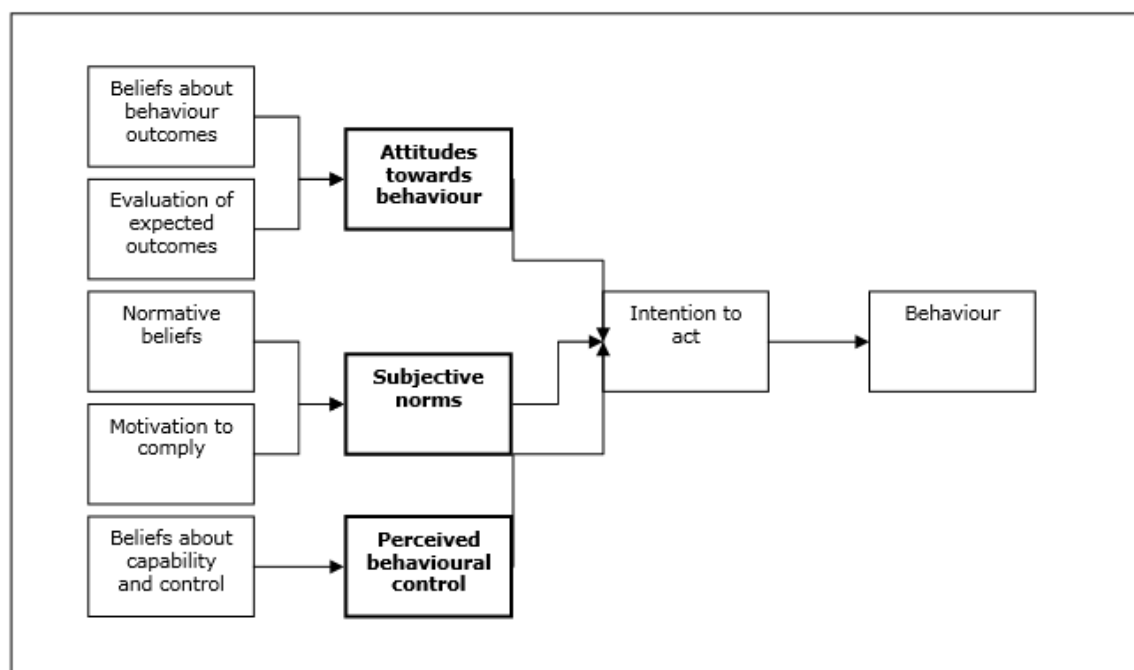
Figure 1. The Theory of Planned Behaviour (adapted from Munro et al. 2007)

The Theory of Reasoned Action (TRA) was propounded by Ajzen and Fishbein (1980) while trying to estimate the discrepancy between attitude and behaviour. It was discovered that TRA was related to voluntary behaviour and behaviour appeared not to be 100% voluntary and under control. This resulted in the addition of perceived behavioural control;

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and the theory was called the theory of planned behaviour (TPB). The theory of planned behaviour predicts deliberate behaviour. The theory of reasoned action suggests that a person's behaviour is determined by her intention to perform the behaviour and that this intention is, in turn, a function of her attitude toward the behaviour and her subjective norm. The best predictor of behaviour is intention. Intention is the cognitive representation of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour. This study adapted the theory of planned behaviour in its intervention attempt. The theory, according to Ajzen (2006), claims that human behaviour is guided by three kinds of considerations, namely:

- beliefs about the likely outcomes of performing breast self- examination and the evaluation of these outcomes(behavioural beliefs)

- beliefs about the normative expectations of others in performing breast self-examination and motivation to comply with these expectations(normative beliefs)

- beliefs about the presence of factors that may facilitate or impede performance of breast self examination and the perceived power of these factors(control belief)

These three kinds of considerations combined will result in the formation of a behavioural intention, although certain difficulties of execution of the intended behaviour may require that perceived behavioural control may be examined alongside the intention. This translates to the fact that behavioural control is an important element in determining whether specific behaviour intended will actually be carried out.

For this study, female menial workers in the two universities studied were guided in the uptake and utilisation of breast self -examination because their attitudes, subjective norms and perceived behavioural control were based on corresponding beliefs and behavioural intentions. The method of intervention employed was a face-to-face discussion within a group. The study revealed how perceptions control performing breast self examination. And such the intervention was designed to raise perceived behavioural control among these women. Specifically, the intervention was directed to behavioural beliefs so as to make the women's attitude toward breast self-examination more favourable, so as to affect intentions and behaviours. This method is not just a possible approach but seems to be a very effective approach for beahaviour change communication.

Following the intervention, there was much more variability in the perceived behavioural control among the women. This revealed a strong co-efficient for the factor of behavioural control in the prediction of intentions and behaviour. The intervention upheld the

view that the merger of behavioural, normative and control beliefs will eventually result in actual behaviour/control and ultimately result in positive intentions and actual behaviour. This is based on the fact that this intervention, directed at behavioural, normative, and control beliefs, succeed in producing corresponding changes in attitudes, subjective norms and perceptions of behavioural control, which further influence intentions in the desired direction. Hence, a strong link is established between intentions and behaviour. According to Golliwitzer (1999), sustaining behaviour change over time requires an implementation intention, meaning a specific plan detailing when, where and how the desired behaviour will be performed.The formulation of the manner and procedure of the BSE will make it easier for the women to carry out their intended actions.

2.19   Health Belief Model

The origin of the health belief model (HBM) back to the 1950s, when it was first developed by social psychologists Hochbaum, Rosenstock and Kegeis working in the U.S. public health services. The model was developed in response to the failure of free tuberculosis (TB) health screening programme. Since then, the HBM has been adapted to explore a variety of long-and short-term health behaviours, including sexual risky behaviours and the transmission of HIV/AIDS. It is a psychological model that attempts to explain and predict health behaviours. This is done by focusing on the attitudes and beliefs of individuals through which several social psychologists seek to understand the infrequent acceptance of preventive practices and pre-illness screening tests (Dunn and Roggers, 1986) However, it was formally proposed by H. Becker (1964) as an attempt to improve on a simple stimulus-response mode. It was initially proposed to explain why people did not participate in preventive health programmes.

The HBM offers a catalogue of variables that influence health action, rather than an explanation for how they operate. It took a phenomenological orientation (that is it is a person's perceptions of the world that determines what he will do, not necessarily the actual environment). Several studies have suggested that the HBM does predict behaviour, although the variance explained remains low. Accordingly, many derivatives were proposed. Examples include Langie's model of perceived vulnerability, perceived benefits of changing health behaviour, barriers and costs, health locus of control, and situational constraints.

Moreover, Antonovsky and Kats model of preventive health behaviour included three classes of variables: predisposing motivation (influenced by desire to avoid illness, to be

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approved by others and to meet one's own values); blockage variables (lack of knowledge, resources); conditioning variables (perceived susceptibility will modify the above variables and previous illness experience).

The HBM is based on the understanding that a person will take a health-related action if such a one:

- feels that a negative health condition (that is, breast cancer) can be avoided,
- Has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (that is, submitting oneself to breast cancer screening may help in detecting the disease early enough) and
- believes that he/ she can successfully take a recommended health action (that is, she can do screening, which may result in early diagnosis and prevent the spread of the disease).

Rosenstock (1974) formulated the health belief model more formally. This consists of four
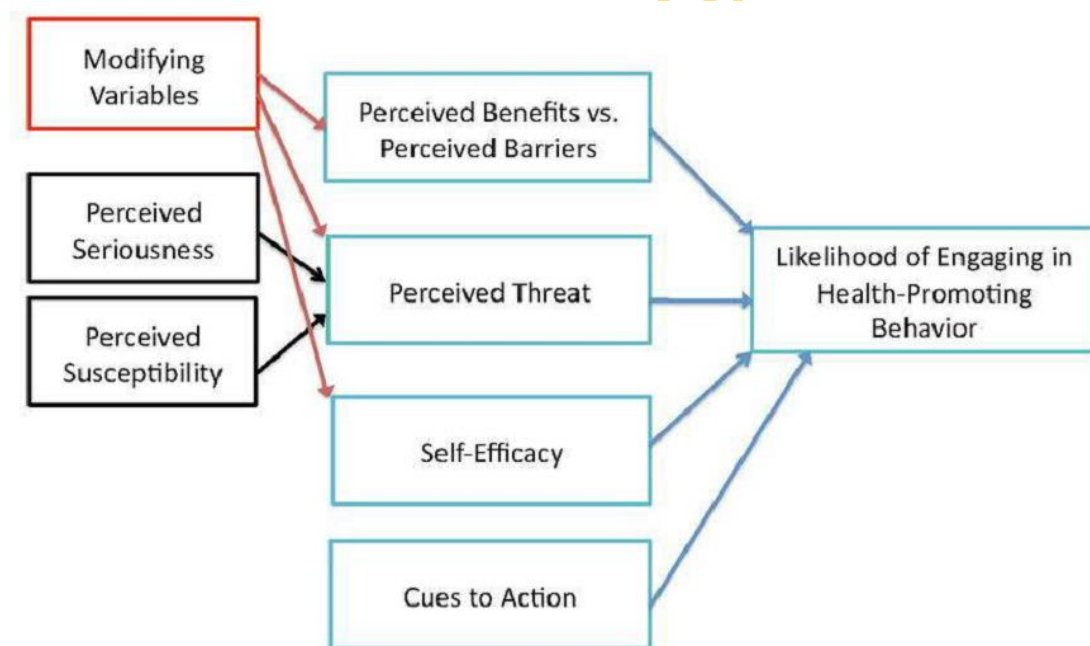
components: perceived susceptibility, perceived seriousness, perceived benefits and perceived barriers.

In relation to the focus of this study, the components of this diagram can be interpreted thus:

- Perceived susceptibility: the female menial's judgement of her risk of contracting breast cancer,

- Perceived severity/seriousness: threat of breast cancer and impact of breast cancer on her life style

- Perceived benefits and feasibility of taking action: the benefits provided by breast self examination and the ease of performing the exercice

- Cues to action: when breast self-examination is seen as favourable, change in attitude towards practicing BSE will usually occur when those who ignore to participate in breast screening are plagued with the disease.

A recent addition to the HBM is the concept of self-efficacy; that is, the female menial workers' confidence in the ability to successfully perform breast self-examination.

Source: Adapted from Theory at a Glance: A Guide for Health Promotion Practice (1997)

Concept	Breast Screening Use Education	Breast Screening
1. Perceived Susceptibility	Female menial workers believe they can get breast cancer.	Female menial workers believe they may have undetected lump already.
2. Perceived Seriousness	Female menial workers believe that the consequences of getting breast cancer are significant enough to try to avoid it	Female menial workers believe the consequences of having breast cancer without knowledge or treatments are significant enough to try to avoid.
3. Perceived Benefits	Female menial workers believe that the recommended action of participating in screening would reveal their health status and may possibly protect them from getting breast cancer.	Female menial workers believe that the recommended action of getting screened for breast cancer would benefit them – possibly by allowing them to get early treatment or preventing them from untimely death.
4. Perceived Barriers	Female menial workers identify their personal barriers to breast cancer screening (that is, cultural barriers in which women are too uncomfortable to present themselves at the screening centres) and explore ways to eliminate or reduce these barriers (that is, teach them to carry out BSE.	Female menial workers identify their personal barriers to presenting themselves for screening (that is, getting to the clinic or being seen at cancer clinic by someone they know) and explore ways to eliminate or reduce these barriers (that is, brainstorm transportation and disguise options.
5. Cues to Action	Female menial workers receive reminder cues for action in the form of incentive (such as handbags with the printed	Female menial workers receive reminder cues for action in the form of incentives (such as a key chain that says, "BSE a

	message BSE a must for all women) or reminder messages (such as messages in market and shopping places).	good way to arrest cancer") or reminder messages (such as posters that say, Women above 40 must do breast screening. Are you 40 or more? Please present yourself for screening.
6. Self-efficacy	Female menial workers confident in performing BSE as well as engage screening regularly	Female menial workers receive guidance (such as information on where to get screened) or training (such as practice in performing BSE).

Steven and Rogers (1986) argue that although the threatened individual is energised to act, the behaviour will not occur unless an external influence, like mass media, interpersonal or group communication campaigns, encourages it.

The health belief model also assumes that psychological or demographic variables may indirectly affect the likelihood of self-productive act through their influence on one or more of the model's components to determine the impact of the HBM variables in preventive regimes. (Janz and Becker (1984) and Steven and Rogers (1986) constructed a significance ratio for each component. The ratio was formed by dividing the total number of positive, statistically significant results by the total number of studies that assessed significance. Twenty four correlation studies were considered, and barriers had the most frequently reported impact on behaviour (93.0%), followed by susceptibility (86.0%) benefits (74.0%) and severity (50.0%).

Janz and Becker (1984) claimed that, despite the impressive body of findings linking HBM dimensions to health actions, it is important to remember that the HBM is a psychological model. As such, it is limited to accounting for as much of the variance in individuals' health-related behaviours as can be explained by their attitudes and beliefs. With respect to exclusive breast feeding, exclusivity is a function of a woman's personal perceptions, modifying factors, and cues to action. The HBM was spelled out in terms of four constructs representing the perceived threat and net benefits: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. These concepts were proposed as accounting for people's "readiness to act". An added concept, cues to action, would

activate the readiness that stimulates overt behaviour. This concept was added by Rosenstock (1988) to help the HBM better fit the challenges of changing habitual unhealthy behaviours.

2.20. Model adopted for the study
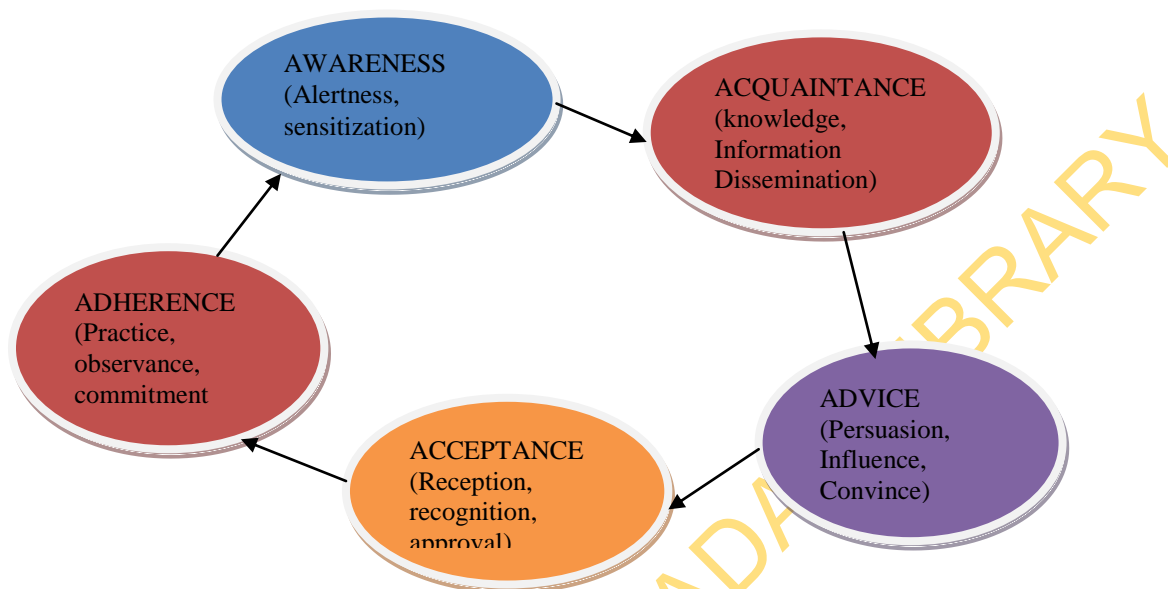
5 A'S OF Behaviour Change Communication
Source: Researcher, 2017.

The model adopted for this study evolved from the combination of the three theories employed for the study. It is a merger of diffusion of innovations theory, planned behaviour theory and health belief model. Hence the model is titled the 5A's of behaviour change communication.

Awareness: This is the first contact of the female menial workers with the message on breast cancer from a behaviour change communicator.

Acquaintance: The receiver is alerted and sensitized to the information on the disease called breast cancer and how to screen or detect the disease as well as the very important steps to take to prevent morbidity and mortality.

Advice: The female menial worker is then informed appropriately on one of the cheapest, easiest and simplest method of screening for breast cancer- breast self-Examination. The best time to do a BSE is a week after the menstrual cycle starts that is, one week after the last menstrual cycle (LMP). It must be done on a particular date and time of the month and any unusual discovery is swiftly reported.

Acceptance: At this stage, the female menial worker understands the implication of screening, is very familiar with the details and intricases of the practice of BSE, can easily

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detect any strange abnormality in the breast during self-examination and is willing to report same for further screening by medical personnel as may be determined by them

Adherence: The female menial worker has adopted the behaviour change and there is no need for further persuasion to carry out the adopted practice. It has become a lifestyle and it is done regularly and correctly without any external influence to do so.

The significance of 5A's of Behaviour change communication model is nestled in its connection and combination of the two theories and one model utilized in the study-Diffusion of innovations, theory of planned behaviour and health belief model.

The model, 5A's of Behaviour change communication emphasizes the importance of sensitization and awareness creation regarding the realities surrounding breast cancer disease as well as the potential antidote to forestalling mortality from the disease. Hence, once a woman is acquainted with the details of the workings of breast cancer, with expert advice, she could adopt the strategy of breast self examination which will alert her to any impending eruption of breast cancer. Accepting and adherence to the procedural practice of breast self examination would enable a woman to report any unusal signs that may be benign or cancereous. If cancerous, early detection wuld enhance early treatment and cure as well as forestall morbidity.

CHAPTER THREE

METHODOLOGY

3.1 Research design

The study was a pre-test – posttest, control group quasi-experimental design with a 2x3x2 factorial matrix.There was an experimental group and a control group. The experimental group participated in the training workshop on breast cancer screening methods, while the control group received lectures on handling women's health generally and nothing specific about breast cancer screening. The summary of the research design is shown in the table below.

Table 3.1: 2x3x2 Factorial Model of Experimental Design

Groups	Pre-Adult		Young- Adult		Adult	
	Less Educated (C1)	Moderately Educated (C2)	Less Educated (C1)	Moderately Educated (C2)	Less Educated (C1)	Moderately Educated (C2)
BCC(A1)	A1+B1+C1	A1+B1+C2	A1+B2+C1	A1+B2+C2	A1+B3+C1	A1+B3+C2
CONT(A2)	A2+B1+C1	A2+B1+C2	A2+B2+C1	A2+B2+C2	A1+B3+C1	A2+B3+C2

KEY:

A1: Experimental Group

A2: Control group

B1: Pre-Adult

B2: Young Adult

B3: Adult

C1: Less Educated

C2: Moderately Educated

3.2 Population of the study

The populations of the study consisted of female menial university workers between the ages of 25 and 60. The selection was a nonprobability purposive sampling of women within the susceptible age bracket for breast cancer. The sample is characterized by the use of judgement and a deliberate effort to obtain representative samples by including presumably typical age groups in the sample.

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3.3 Sample and sampling technique

The study employed the nonprobability sampling and the likely error inherent in this procedure was mitigated by using knowledge, expertise and care in selecting the samples used. This is in consonance with Kerlinger (1973:129).

The participants in the study were 100 women (following a previous study conducted in Lagos State, Nigeria) from Bowen University and University of Ibadan respectively. These women were selected using the nonprobability purposive sampling and simple randomisation technique. The participants were in 2 groups–intervention group and control group. The Bowen University participants were given treatments, while the women from the University of Ibadan belonged to the control group. The researcher worked in conjunction with undergraduates from both universities in the administration of pretest and posttest questionnaires.

Also, the medical team of Bowen University got involved because the hospital was used as a screening centre during the project. With the assistance of Bowen Hospital management, participants reported at the hospital for screening and the medical officers in charge attended promptly to them with proper documentations of attendees and their case files. A few referrals were then made to the University College Hospital, Ibadan for the attention of the breast oncology team.

3.4 Inclusion Criteria:

To be eligible to participate in the study, the participants must be:

- menial workers in the universities in Oyo and Osun States
- within the age bracket of 25 and 60 years
- staff of an outsourced organisation within the university
- willing to actively participate voluntarily in the study, and
- be actively involved in at least 90% of the study's activities.

3.5 Instrumentation

3.5.1 Pre- test questionnaire

Breast cancer screening questionnaire (divided into four sub-scales: knowledge/ awareness, sources of information, method and utilization)

3.5.2 Breast cancer awareness scale

The questionnaire scale was drawn to determine the baseline knowledge of participants regarding breast cancer screening. The information was then collated and `analyzed to determine their knowledge level.

3.5.3 BCC (treatment) package and guide

The Breast Cancer Utilization Package (BCUP) was adopted by the researcher. It included an eight-week teaching module for the participants. Experts and specialists were invited to give lectures and to conduct practical sessions on breast cancer screening. The module is in Appendix A.

Pilot Study

The objective was to make it possible for the researcher to establish the psychometric properties of the four instruments for the study. The instruments for the study were revalidated by means of an internal method of validation. Experts in test construction went through the tests and made suggestions and necessary corrections. The pilot study was carried out by administering the instruments on 25 women from University College Hospital Ibadan who were randomly selected. The Cronbach coefficient method was used therefore to test the internal consistency of the items of the measuring instruments.

Reliability Test

A.   Scale: Knowledge of Awareness

Reliability Statistics

Cronbach's Alpha	N of Items
.714	8

B . Scale: Source of Information

Cronbach's Alpha	N of Items
.853	8

C. Scale: Screening Method

Cronbach's Alpha	N of Items
.908	5

D.Scale: Breast Screening Utilisation

Cronbach's Alpha	N of Items
.717	6

E.Breast Cancer Disease Awareness Scale

Cronbach's Alpha	N of Items
.798	40

The participants for the intervention group were selected by identification of women who were less likely to know about breast cancer screening. These were low income earners (female cleaners, who were staff of Bowen University Ventures) who might otherwise have little or no information regarding breast cancer screening. Initial visitations and consultations were made to identify willing participants and to take due permission from appropriate authorities in each group. Next, letters were then issued out to resource persons listed to participate in the intervention programme. The resource persons were representatives of the Chief Medical Officer of Bowen University Hospital, representatives of the Division of Oncology, Department of Surgery, University College Hospital Ibadan, and a cancer patient survivor. These resource persons agreed to collaborate with the researcher to carry out the intervention programme for the experimental group. Following this, the management of Bowen University, Iwo was duly informed and a venue was designated for the intervention programme to prevent contamination.

Health talks were given on a weekly basis for a period of 8 weeks on a consistent and systematic basis for the experimental group by the resource persons. Each week, there were questions and answer sessions and participants were allowed to interact with resource persons on a one-to-one basis. Beginning from the 5th week, participants in the experimental group

were conducting BSE for themselves and also visited Bowen University Hospital for clinic-based examination with additional women(non-participants who heard the information from the participants) who made self-initiated visitation to Bowen University Hospital, having been told of the BSE training and the CBE opportunity available at the hospital.

3.6   Method of data analysis

The data collected during the treatment sessions were analyzed using the Analysis of Covariance (ANCOVA). The socio-demographic variable; knowledge, attitude and practice about the screening were analyzed using SPSS, and T-test at 0.95 level of significance. ANCOVA is a statistical form of analysis of variance that was invented by Fisher (1951). It tests the significance of the differences among means of experimental groups after taking into account initial differences among the groups, and the correlation of the initial measures and dependent variables. It has the ability to control errors, adjust treatment means between the experimental group and the control group, take the correlation between the pre-test and post-test measures into account and increase precision in randomized experiments and adjusted means worked out by the two techniques adopted (HCTQ & HCEQ) using the standard error means.

3.6.1   Control of extraneous variables

The following measures were, taken to minimize and control the intervening/extraneous variables where the total elimination of such was not possible:

a) The use of random selection process to choose participants into treatment and control groups: The participants for this study met the criteria for selection as laid down, that is they were low income females eligible for breast cancer screening.

b) The testing conditions were made uniform for all the participants in the groups in terms of sitting arrangements, time of the day and messages received.

c) Although the same instrument was used as pretest and post pre-test measures, the time interval between the two tests (8 weeks) to a large extent, took care of the habituation of the participants subjected to the instruments.

d) The language of communication was Yoruba. The instruments were prepared in English but translated into Yoruba to remove linguistic noise as well as to achieve maximum comprehension of the transmitted message by the target participant.

e) The 2x3x2 factorial design was used for the study.

f) The treatment manual was followed meticulously by the researcher.

g) The statistical analysis of the data used in the study that is Analysis of Covariance (ANCOVA) helped to control any other variations that might not be easily or adequately handled by the measures taken so far, which include sampling and treatment procedures.

With the above steps dutifully taken, it was believed that wherever there was a significant change in behaviour, such changes could be attributed to the efficacy of the treatment programme despite the extraneous variable.

3.7. Table showing distinct socio-demograhic differences between female menial workers in Iwo and Ibadan Centres respectively.

RESPONDENTS	IWO	IBADAN
Age	Majority of women surveyed in Iwo were between 36 and 45 years.	Majority of women surveyed in Ibadan were between 26 and 35 years.
Ethnicity	Women surveyed were mostly Yoruba	Women surveyed were mostly Yoruba
Marital Status	All respondents were married	82% of respondents were married
Religion	82% of respondents were Christians	62% of respondents were Christian while 38% were Muslims
Education	In Iwo, 64% attended elementary school while the remaining 32% attended secondary school and none for post secondary.	The Ibadan respondents attended elementary, secondary and post secondary schools.
Work Experience	68% of the respondents have been cleaners for about 3 to 4 years.	While only 8% have been cleaners for 3 to 4 years.

CHAPTER FOUR

RESULTS AND DISCUSSION OF FINDINGS

This chapter presents the result of the research and discussions of findings in relation to previous related studies. This chapter is in two parts. The first part details the demographic characteristics of the respondents, while the second part dealt with the results of the variables used.

4.1   Demographic Characteristics of the respondents

Figure 4.1:   Distribution of respondents by age
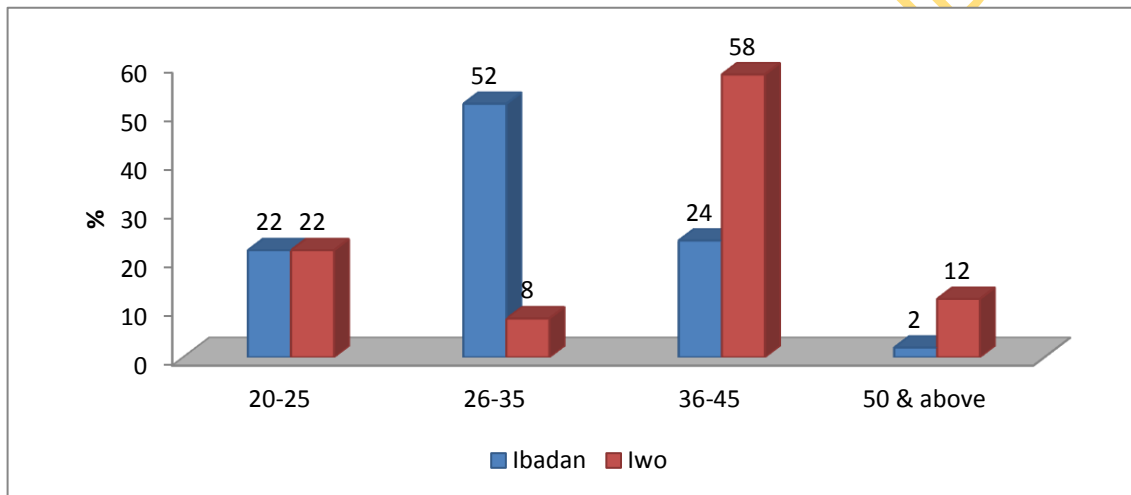
Figure 4.1 shows a cross-sectional analysis of the respondents' socio-demographic features. Specifically, the table shows that, in Ibadan, 22.0% were between the ages of 20 and 25 years, 52.0% were between the ages of 26 and 35, 24.0% were between the ages of 36 and 45 and 2.0% were 50years and above. However in Iwo, 22.0% were between the ages of 20 and 25, 8.0% were between the ages of 26 and 35, 58.0% were between the ages of 36 and 45, while 12.0% of the respondents were 50 years and above. The results showed that the majority of those surveyed in Ibadan were between the ages of 26 and 35, while the respondents in Iwo were between ages 36 and 45.

The literature recorded that by year 2020, women 45 years and above would suffer most from breast cancer disease. The experimental group fell within this category. The timely intervention of this study would serve as a way out for the population that may be affected in the next few years.

Figure 4.2: Distribution of the Respondents by Ethnicity
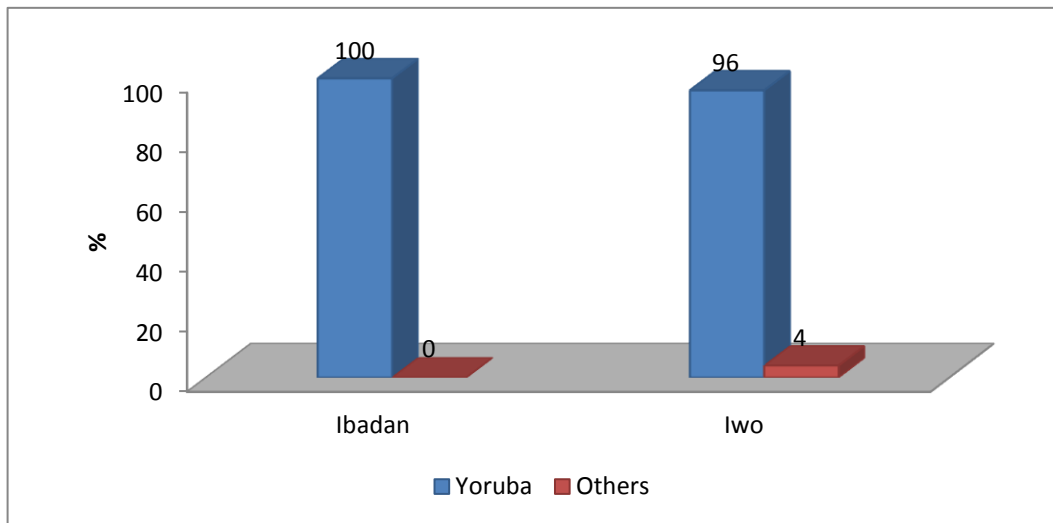
In terms of ethnicity, figure 4.2 reveals that all the respondents surveyed in Ibadan were Yoruba (100.0%), whereas in Iwo (96.0%) were Yoruba, while (4.0%) were from other ethnic groups. The conclusion here is that the respondents surveyed in both study areas were largely Yoruba. The reason adduced for this is that both study areas are located in the southwestern part of the country, which comprises mainly of the Yoruba ethnic group.

Figure 4.3: Distribution of the Respondents by Marital Status
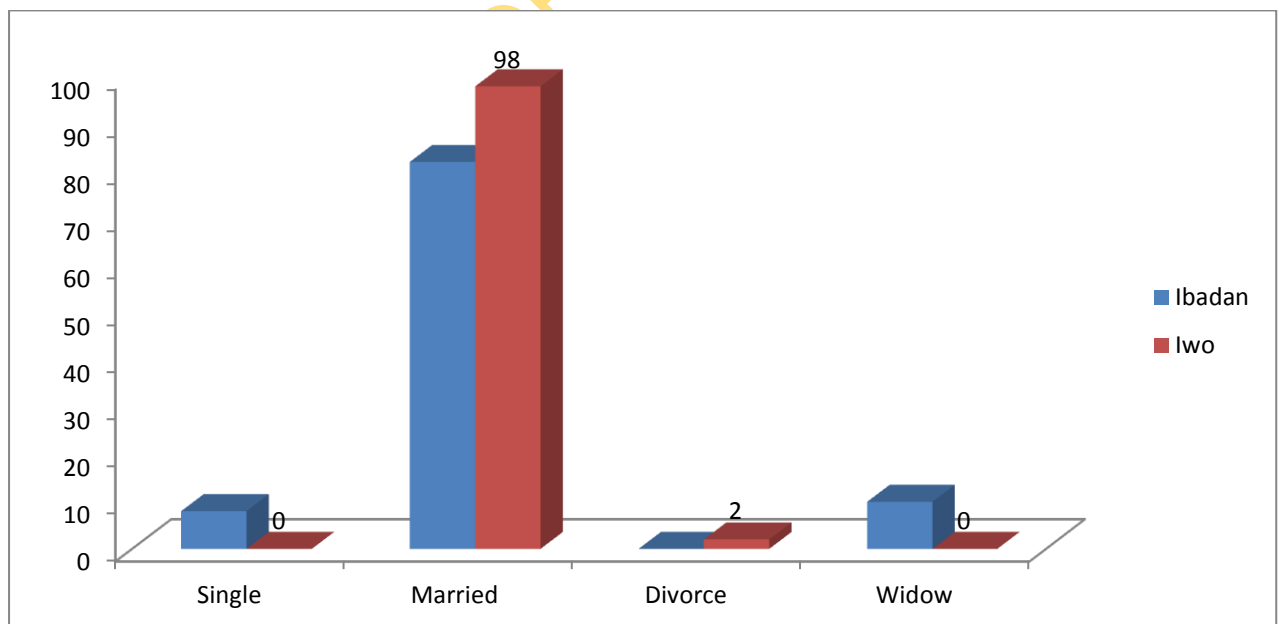
Figure 4.3 shows that in Ibadan, 8.0% of the respondents were single, 82.0% were married, while 10.0% were widows. In Nigeria, most female menial workers are married and sometimes act in the capacity of breadwinners in their families. The pursuit to provide for their dependent poor children is a major catalyst that triggers their search for menial jobs to

overcome poverty. The 10.0% who were widows in the Ibadan control group and the 82.0% who were married and still engage in menial work for survival attested to this.

The same is applicable in Iwo since almost all the respondents were married (98.0%). It is evident from this analysis that those surveyed for the study were mainly married women. Basically, in Nigeria, most women within the age range of 25 years and above would normally be married. Therefore, this study is in consonance with other similar studies.

Figure 4.4: Distribution of the Respondents by Religion
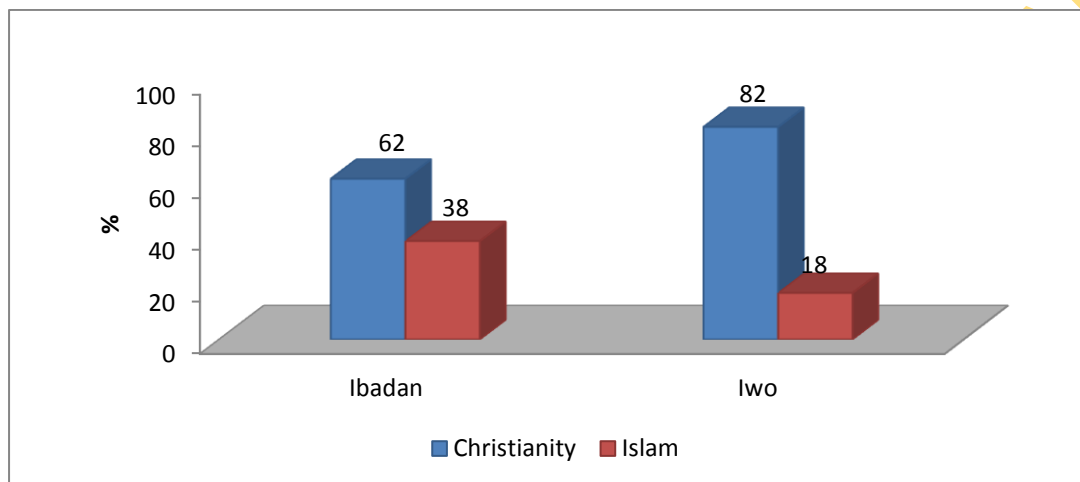
In terms of religion, Figure 4.4 indicates that, in lbadan 62.0% were Christians, while 38.0% of the respondents were Muslims. In Nigeria, the two prominent religions are Christianity and Islam; the majority of the citizens would naturally belong to either.The University of Ibadan is a federal institution and secular; hence, there is no dominant religion among its formal and informal employees. As such there are no religious considerations regarding employment services. Conversely, in Iwo, 82.0% of the respondents were Christians, while 18.0% were Muslims. This implies that those who were mostly surveyed at both study areas were Christians. The majority of women surveyed in lwo were Christians although, traditionally, lwo town is view to be predominantly Muslim. Since the female menial workers worked for a Christian mission university, it is not unusual to discover that most of the outsourced employees would have the religious leanings of the employer.

Figure 4.5:   Distribution of the Respondents by Job Description

In terms of occupation, Figure 4.5 shows that all respondents (100.0%) surveyed in both Ibadan and Iwo were all cleaners.
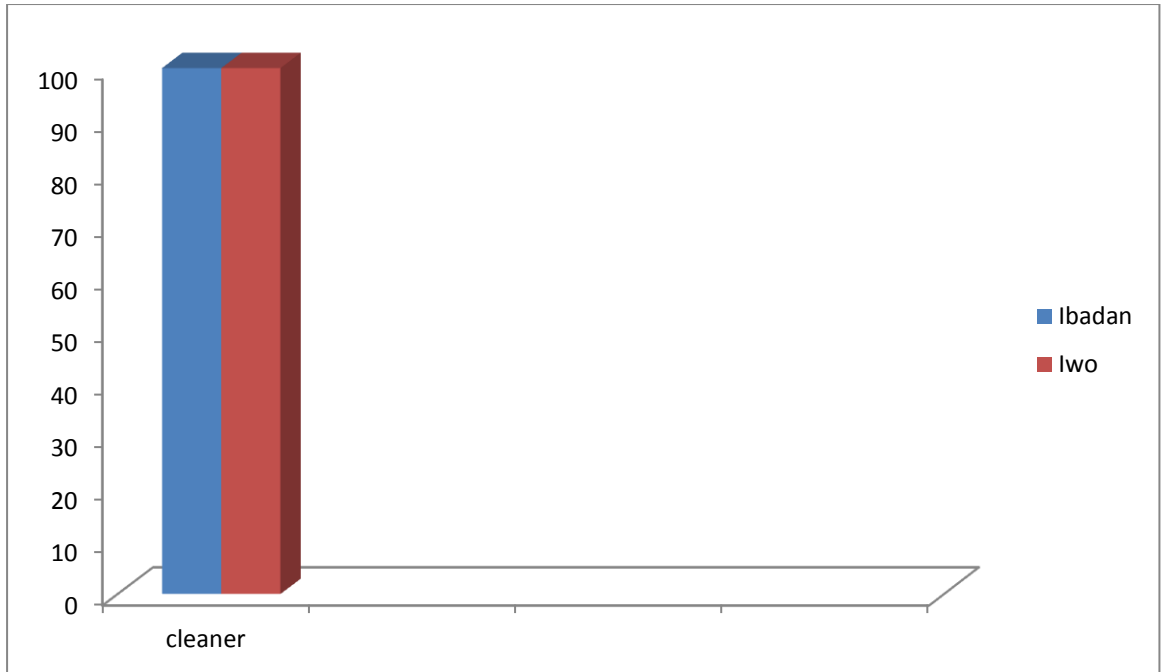
The study targeted female menial workers, specifically cleaners who were outsourced staff of the two universities studied. These women aged between 25 and 50+ years resident both in Iwo and Ibadan had been in the cleaning employment from a few months to more than five years.

Figure 4.6: Distribution of the Respondents by Education
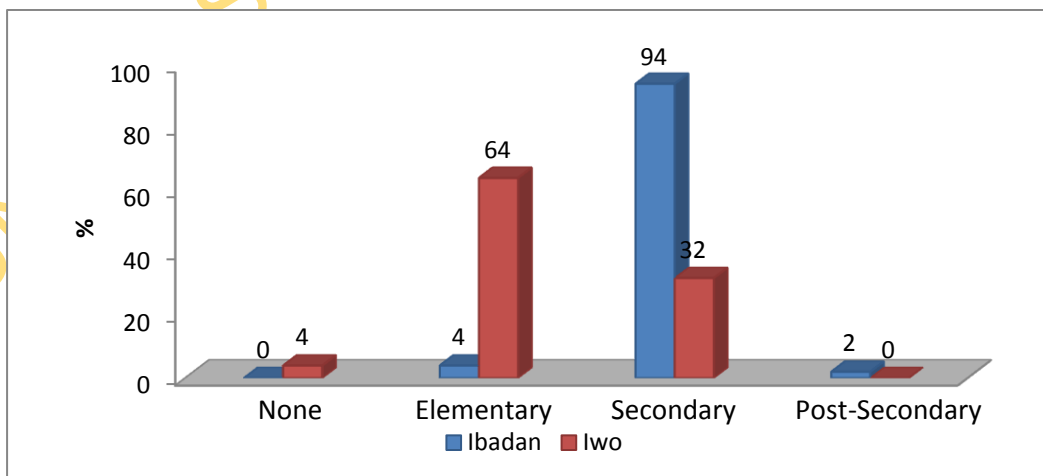
Figure 4.6 shows that, in Ibadan, 4.0% of the respondents attended elementary school, 94.0% attended secondary school, while 2.0% had post-secondary education. The academic distribution of the Ibadan control group shows that the least literate of the women had been to

elementary school, while the highest number attended secondary school, and a few had been exposed to post-secondary education. This reveals that the participants in Ibadan were not stark illiterate; rather they were a moderately educated group of women who could read and write and, as such, can clearly understand health messages, particularly, breast cancer messages, health consequences of the disease on them and the inherent advantages in their uptake of screening.

However in Iwo, 4.0% of the respondents did not pass through formal education, 64.0% attended elementary school, and the remaining respondents 32.0% attended secondary school. The report from Iwo is a little different, because the majority of the participants had only elementary education and a moderate category had secondary education, none had post-secondary education. The marked disparity in the two groups could be adduced to their locations. Participants from Ibadan were from a relatively more exposed and elite community than the participants from Iwo, which could be categorized as belonging to the rural-urban community. The implication is that the Ibadan participants were more literate than their Iwo counterparts. It could be concluded that, while secondary school certificate holders were those who were mostly surveyed in Ibadan, those who attended elementary school were mostly surveyed in Iwo. The experimental group had women with least educational qualifications. Thus, the study captured the less educated and fulfilled one of the study's objectives.

Figure 4.7:   Distribution of the Respondents by Work Experience
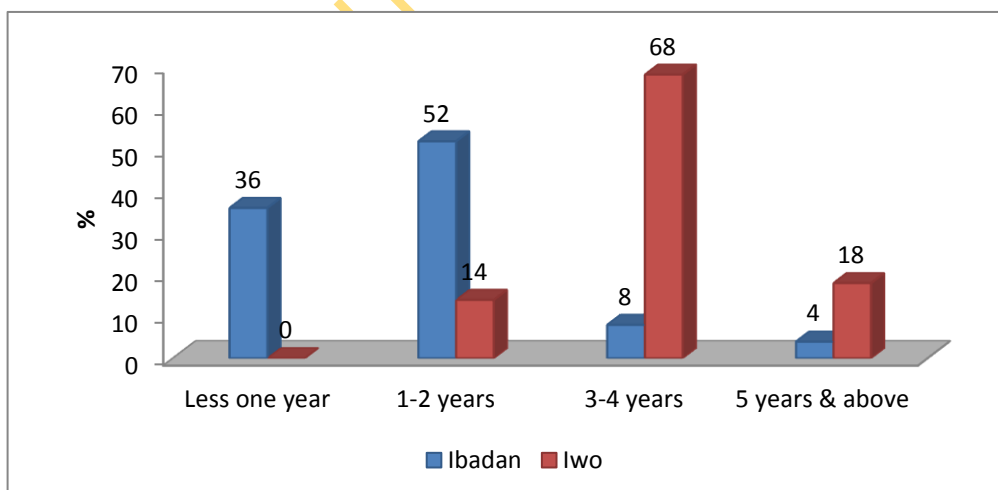
Moreover, Figure **4.7** shows that in Ibadan, 36.0% of the respondents had been cleaners for less than a year, 52.0% of them had been cleaners between a year and two, 8.0% for 3 to 4 years, 4.0% had been cleaners for at least 5 years. However in Iwo, 14.0% of the respondents had been cleaners for at least 1 to 2 years, 68.0% had been into the cleaning

profession 3 to 4 years, and about 18.0% of the respondents had been cleaners for at least 5 years. There is a noticeable difference in the duration of time that participants from Iwo and Ibadan had been in the cleaning profession within the university community. A total of 52.0% participants from Ibadan had worked as cleaners for between one and two years, while in Iwo 68% had worked as cleaners for between three and four years. This could be translated to mean that participants from Iwo had been around the university community for a longer period of time and ought to have access to health messages.

4.2 Response to research questions

RQ1: What is the level of awareness and knowledge of breast cancer disease as well as its consequences among the female menial university workers?

Table 4.1: Information about cancer disease

Questions	Ibadan		Iwo	
Do you know about the disease called cancer?	*Before*	*After*	*Before*	*After*
Yes	76.0%	96.0%	14.0%	100.0%
No	18.0%	4.0%	74.0%	0.0%
No Response	6.0%	0.0%	12.0%	0.0%

Source: Field Survey, 2015

Table 4.2: Information about breast cancer

Questions	Ibadan		Iwo	
Have you heard about cancer of the breast?	*Before*	*After*	*Before*	*After*
Yes	76.0%	96.%	14.0%	100%
No	18.0%	4.0%	74.0%	0.0%
Couldn't Recollect	6.0%	0.0%	12.0%	0.0%

Source: Field Survey, 2015

Table 4.3:   Causes of breast cancer

Questions What do you know /think causes breast cancer?	Ibadan		Iwo	
What do you know or think causes breast cancer?	*Before*	*After*	*Before*	*After*
Lumps	10.0%	50.0%	10.0%	90.0%
Hereditary	1.0%	10.0%	2.0%	5.0%
Occultic/Satanic Affliction	50.0%	10.0%	70.0%	1.0%
Genetic Changes	2.0%	10.0%	5.0%	1.0%
Dietary Factors	10.0%	0.0%	3.0%	1.0%
Environmental factors	5.0%	0.0%	0.0%	0.0%
Poverty	10.0%	0.0%	0.0%	0.0%
Don't know	12.0%	20.0%	10.0%	2.0%

Source: Field Survey, 2015

Table 4.1 shows that, in Ibadan, before the intervention exercise, 76.0% of the respondents knew about cancer diseases. This is expected given the fact that the cleaners are located within the university system wherein issues of cancer is readily discussed and sometimes actual contact with cancer patients or their relations is a real possibility. Also, 18.0% said they never knew about cancer. This is also a possibility, given the fact that majority of the cleaners, specifically, 68.0% of the cleaners had worked for less than one year while 52.0% had worked for between one and two years. Besides, 6.0% of the respondents claimed they never could tell whether they knew about the cancer diseases or not. These women were probably insensitive to the available information around them or the information on cancer did not get to them. In other words, the sources disseminating breast cancer message is still not making impact in some quarters. This lends credence to the fact that certain women still remain unreached and are susceptible. Therefore, efforts must be made to reach them with the consequences of cancer and the advantages of screening. After the intervention exercise, 96.0% of the respondents knew about the cancer diseases, while 4.0% of the respondents claimed they did not know about the cancer disease.

In Iwo, before the intervention exercise, 14.0% of the respondents knew about the cancer disease, while 74.0. % never had a prior knowledge of cancer and 12.0% of the respondents could not tell whether they actually knew about cancer or not. The finding of the

study revealed that only 14.0% had knowledge of cancer disease before the intervention. This supports the effort of the intervention exercise. It is of utmost necessity that the issue of educating and communicating breast cancer messages receive urgent attention, given the number of people who are yet unaware of the disease and who are very well susceptible and may be unable to deal with the full blown disease. Additionaly, 12.0% of the respondents could not ascertain whether they had heard about the disease or not. This made the total number 86.0% female cleaners in Iwo who were truly not aware because the message on breast cancer had not reached them from any known source. However, after the intervention exercise, 100.0% of the respondents gained knowledge about the cancer disease and had fully comprehended the information about the disease. The discovery of this study attest to the need for a convenient method of disseminating breast cancer messages to the unreached poor who have the tendency to contract the disease without knowing anything about its management. On the whole, it could safely be concluded that the respondents became knowledgeable about the cancer disease after the intervention exercise in both study locations. This implies that the intervention exercise carried out particularly in the experimental site yielded good results and the general health messages disseminated in the control group also produced positive result.

Table 4.2 shows that, in Ibadan, before the intervention exercise, 76.0% of the respondents had heard about the cancer of the breast, 18.0% of the respondents had never heard about it and 6.0% could not recollect whether they had actually heard about the cancer of the breast or not. However after the intervention exercise, 96.0% of the respondents had heard about the cancer of the breast, while 4.0% have not.

In Iwo, before the intervention exercise, 14.0% of the respondents claimed they have heard about the ailment called cancer of the breast, while 74.0% of the respondents had never heard of the ailment and 12.0% of the respondents claimed that they had forgotten about hearing about the ailment. However, after the intervention exercise, the entire respondents (100%) claimed that they had heard about the ailment called breast cancer. The results in the experimental group attested to the fact that the awareness and knowledge of breast cancer disease increased tremendously after the intervention programme. This, points to the need for the intervention as well as its effectiveness in sensitizing the participants to utilise the breast self- examination method of screening.

As captured in Table 4.3 with regard to the participants in Ibadan, the women's viewed the causes of breast cancer to be lumps (10.0%), dietary factors (10.0%),

environmental factors (5.0%), and poverty (10.0%); 50.0% of them felt that breast cancer is caused by satanic/occultic affliction. Their understanding did not improve significantly after the intervention about causes of breast cancer. Comparatively, in Iwo, the participants also believed strongly that breast cancer is caused by satanic and occultic affliction with 97.0% confirming it. However, after the intervention programme, the knowledge of the Iwo participants increased and 90.0% of the women understood that lumps in the breast could eventually cause breast cancer and not satanic or occultic affliction. The results from Iwo after the intervention further established the necessity of communicating correct information about the causes of breast cancer disease to the ignorant. The prior understanding of the participants from the control and experimental groups revealed that, if breast cancer patients believe that the cause of the disease is by satanic/occultic affliction, then remedy and cure would be sought for in inappropriate places, thus, increasing the number of morbidity from the disease.

RQ2: What is the level of awareness and knowledge of breast cancer screening among these women?

Table 4.4:   Breast cancer awareness and knowledge level

Question	Ibadan		Iwo	
Do you know if breast cancer can be cured?	*Before*	*After*	*Before*	*After*
Yes	10.0%	40.0%	20.0%	95.0%
No	50.0%	50.0%	70.0%	3.0%
Don't know	40.0%	10.0%	10.0%	2.0%

Source: Field Survey, 2015

From table 4.4, it is obvious that 90.0% of the participants in Ibadan were not aware of the possibility of cure from breast cancer disease; while only 10.0% affirmed that cure for breast cancer is possible. Still after the intervention, only 40.0% became aware that breast cancer can be cured, while 60.0% still were unsure. In Iwo, 80.0% of the participants did not know that it is possible to receive cure from breast cancer, while only 20.0% responded positively, that it is possible to be cured from breast cancer. Noneteheless, after the intervention, in Iwo, 95.0% of the participants confirmed that cure is possible for a breast cancer patient while 5.0% were not sure. In Iwo, a large percentage now had the information and understanding of the truth that breast cancer is curable. This means that the understanding of the appropriate place to consult for cure is also understood.

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Table 4.5:   Breast cancer detection

Questions	Ibadan		Iwo	
How do you think breast cancer can be detected and treated early?	*Before*	*After*	*Before*	*After*
BSE	5.0%	30.0%	2.0%	80.0%
CBE	20.0%	20.0%	10.0%	5.0%
Mammogram	5.0%	10.0%	0.0%	5.0%
Cancer Awareness	10.0%	10.0%	5.0%	10.0%
Don't know	60.0%	30.0%	83.0%	0.0%

Source: Field Survey, 2015

Table 4.5. Reveals that before intervention in Ibadan, the majority of the participants (60.0%) did not know that breast cancer can be detected and treated early, while only 40.0% knew. After the intervention, the number of those without the knowledge of early detection and treatment reduced to 30.0% while 70.0% still did not know.

In Iwo, before the intervention, a large majority 83.0% did not know, while only 7.0% knew. Nevertheless, after the intervention, 100.0% knew about the available screening methods for breast cancer, with 80.0% for breast self-examination, 5.0% for clinical breast examination, 5.0% for mammogram, and 10.0% from cancer awareness programmes. The significance of Table 4.5 is that the participants from the experimental group were now fully aware of the different types of available methods of detecting breast cancer disease early and the importance of breast awareness campaign programmes could make susceptible women to be aware of early discovery and early treatment of the disease.

Table 4.6:   Lifetime chance of having breast cancer

Question	Ibadan		Iwo	
What do you think is your lifetime chance of having breast cancer?	*Before*	*After*	*Before*	*After*
None	1.0%	10.0%	1.0%	10.0%
Minimal	5.0%	10.0%	2.0%	15.0%
Moderate	10.0%	10.0%	2.0%	25.0%
High	10.0%	10.0%	2.0%	30.0%
Don't know	74.0%	60.0%	93.0%	20.0%

Source: Field Survey, 2015

Table 4.6 shows that most of the Participants (74.0%) from Ibadan did not know their lifetime chance of contracting breast cancer prior to the intervention programme. After the intervention, the number decreased to 60.0% who still did not know. In Iwo, 93.0% did not know but, after the intervention, about 80.0% knew and only 20.0% still did not know.

RQ3: What are the sources of information on breast cancer screening among women?

Table 4.7:   Sources of breast cancer information

Questions	Ibadan		Iwo	
What is your source of information about cancer of the breast?	*Before*	*After*	*Before*	*After*
Print and/ or electronic media	26.0%	26.0%	8.0%	0%
Medical Personnel	20.0%	20.0%	0.0%	0%
Friends and family members	24.0%	24.0%	0%	0%
Others/Behaviour change communication	30.0%(others	30.0%(others)	0%	100%(BCC)

Source: Field Survey, 2015

Table 4.7 shows that in Ibadan, the respondents had information about cancer of the breast before intervention through print and/or electronic media (26%), medical personnel (20%), and friends and family (24%), while others did not specify (30%). However, after the intervention exercise, the respondents sourced for information about cancer of the breast from print and/or electronic media (26%), medical personnel (20%) friends and family members (24%) and others (30%) In Iwo, before the intervention exercise, 8% received information about breast cancer from print and/or electronic media only. However, after the intervention exercise, the entire respondents claimed that the intervention seminar at Iwo was their source of information on breast cancer.

Table 4.8:   Types of breast cancer screening method adopted and utilized.

Questions	Ibadan		Iwo	
Have you subjected yourself to any of these breast cancer screening?	*Before*	*After*	*Before*	*After*
BSE	10%	20%	0%	100%
CBE	2%	2%	0%	100%
Mammogram	0%	0%	0%	0%
No response	88%	78%	100%	0%

Source: Field Survey, 2015

Furthermore, Table 4.8 showed that, in Ibadan, before the intervention exercise, 10.0% of the respondents had subjected themselves to BSE and 2.0% had before opted for the

(CBE) breast screening programme, while the rest 88.0% had not at anytime subjected themselves to any type of screening. After the intervention exercise however, 20.0% had done BSE, 2.0% had done CBE and 78.0% no reponse. But in Iwo, none of the respondents had subjected herself to any of the breast cancer screening methods prior to the intervention programme. However, after the intervention exercise, the entire respondents (100%) had subjected themselves to the breast self-examination and clinic-based examination methods.

Table 4.9:   Performing breast self-examination

Questions	Ibadan		Iwo	
Do you know how to perform breast self examination?	*Before*	*After*	*Before*	*After*
Yes	*0.0%*	*2.0%*	*0.0%*	*100.0 %*
No	*3.0%*	*3.0%*	*0.0%*	*0.0%*
Don't know	*97.0%*	*95.0%*	*100.0%*	*0.0%*

Source: Field Survey, 2015

Table 4.9 shows that both participants from Ibadan and Iwo were not knowledgeable about how to perform breast self-examination before the intervention programme. After the intervention, 95.0% of the participants from Ibadan still did not know how to perform BSE, while the entire participants in Iwo, having participated in the intervention programme, learned how to perform BSE. This means that the knowledge of BSE that the Iwo participants were exposed to informed their knowledge and understanding of the importance of performing breast cancer screening.

4.3   Testing of research hypotheses

H0₁: **There is no significant main effect of behaviour change communication on breast self-examination among women**

Table 4.10: Summary of 2x2x2 Analysis of Covariance (ANCOVA) showing the significant main and interactive effect of treatment group, age and educational attainment among women

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared	Remarks
Corrected Model	9156.930[a]	8	1144.616	10.121	.000	.471	
Intercept	1352.450	1	1352.450	11.958	.001	.116	
Pretest	130.907	1	130.907	1.157	.285	.013	
Treatment	8160.549	1	8160.549	72.155	.000	.442	S
Education	233.146	1	233.146	22.061	.001	.322	S
Age	44.152	1	44.152	.390	.534	.004	NS
Education * Age	.815	1	.815	.007	.933	.002	NS
Treatment * Age	.156	1	.156	.002	.970	.001	NS
Treatment * Education	232.678	1	232.678	2.057	.155	.022	NS
Treatment * Education * Age	19.945	1	19.945	.176	.676	.002	NS
Error	10291.910	91	113.098				
Total	175158.000	100					
Corrected Total	19448.840	99					

 a. R Squared = .471 (Adjusted R Squared = .424)

Significant at 0.05

        The Table 4.10 shows that there was significant main effect of treatment on breast self-examination among women ($F_{(1, 91)}$ = 72.155, p < .05, η^2 = .422). This implies that there is a significant impact of the treatment in the groups test scores on breast self-examination among women. Therefore, the null hypothesis, which states that there is no significant main

effect of treatment on breast self-examination among women, was rejected. Table 4.9 also shows the contributing effect size of 42.4%. For further clarification on the margin of differences between the treatment group and the control group, a Duncan post-hoc pairwise analysis which shows the comparison of the adjusted mean was computed and the result is as shown in Table 4.11

Table 4.11: Duncan Post-hoc Analysis showing the significant differences among various Treatment group and the Control Group in Breast Self-Examination among women

Treatment	N	Subset for alpha = 0.05	
		1	2
Control	50	30.22	
Behaviour Change Communication	50		48.70
Sig.		.001	1.000

Table 4.11 reveals that experimental group (behaviour change communication) ($\bar{x}$ = 48.70) had the highest mean compared to the control group ($\bar{x}$ = 30.22). By implication, behaviour change communication is more potent in enhancing breast self-examination among women. The coefficient of determination (Adjusted R^2 = .424) overall indicated that the differences that exist in the group accounted for 42.4% in the variation of breast self-examination among women. In order to obtain further information on the performance of each group, an Estimated Marginal Means (EMM) was computed. The result is presented in Table 4.13.

Table 4.12: Estimated Marginal Means (EMM) showing the differences in breast self-examination among women across the three Groups

	N	Mean	SD	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Behaviour Change Communication	50	48.7000	7.98021	1.12857	46.4321	50.9679
Control	50	30.2200	12.60918	1.78321	26.6365	33.8035
Total	100	39.4600	14.01617	1.40162	36.6789	42.2411

Table 4.12 shows that participants exposed to behaviour change communication obtained the highest mean score (Grand Mean = 48.70), followed by the control group (Grand Mean = 30.22). This indicates that behaviour change communication is effective in enhancing breast self-examination among women.

Interpretation and Discussion

Table 4.10, 4.11 and 4.12 capture the rejection of the first hypothesis of the study-$H0_1$: There is no significant main effect of behaviour change communication on breast self-examination among women. The findings revealed that there was significant main effect of treatment on breast self-examination among women ($F_{(1, 91)} = 72.155$, $p < .05$, $\eta^2 = .422$). This implies that there is a significant impact of the treatment in the groups test scores on breast self-examination among women.

The Literature confirms that, in spite of the enormous benefit of screening for early detection of breast cancer, many women of low socio-economic status do not participate in screening owing to high cost and lack of awareness. In a study conducted among rural California American Indian women, it was discovered that there were cultural and socio-economic barriers to breast cancer screening. These barriers included lack of knowledge regarding the need for breast cancer screening, as well as lack of knowledge regarding treatment and very high cost of medical care (Hodge, 2009). In a study conducted among traders and full time housewives in Lagos State, Nigeria, Adetifa et al. (2009) found that breast cancer was prevalent within this category of poor and unemployed sit-at-home women. Further, the study conducted by Wu, Tsu-Yin, Liu Yi-Lan and Chung Scott (2012) among women in China, reported a strong link between huge financial cost, beliefs, knowledge and awareness about utilization of breast cancer screening among women. This report is in consonance with a release by the Breast Health Global Initiative that indicated a lack of public awareness in the importance of early detection of breast cancer and highlighted the importance of community and lay health officers in the sensitization and awareness creation programmes among the lowly and poor women.

Azubuike and Okwuokei (2013) also reported that except knowledge regarding breast cancer is readily available and wrong beliefs about the disease countered, women susceptible to breast cancer disease may not adopt screening methods as a potent strategy for early detection and reduction of breast cancer mortality. The intervention seminar exposed the women to the evil of breast cancer, sensitized them on the need for the uptake of breast self -

examination as a cheap and simple way of detecting breast cancer early. The women subsequently accepted the information and utilized the knowledge received.

H0₂: **There is no significant main effect of age on Breast cancer utilization among women**

Table 4.13: Estimated Marginal Means (EMM) showing the differences in breast self-examination among women across ages

Age	N	Mean	SD	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Old	46	37.5000	12.96774	1.20687	34.0551	42.9449
Young	54	38.5741	13.22890	1.80023	34.9633	42.1849
Total	100	76.0741	26.19664	3.0071	69.0184	85.1298

Table 4.13 shows that there was no significant main effect of age on breast cancer screening among women ($F_{(1, 91)} = .390$, $p > .05$, $\eta^2 = .004$). Hence, the null hypothesis was accepted. This denotes that there is no significant difference in the breast self-examination among the old and the young participants. Table 4.13 further reveals the mean score of young women (estimated mean = 38.57) and old women (estimated mean = 37.50). Young women had slightly higher breast self-examination knowledge than their counterparts who were old but the difference was not significant.

Interpretation and discussion

The incidence of breast cancer increases with age. However, the knowledge is common with younger women. Approximately, 80% of the women aged 50 and above are susceptible (Oregon State Cancer Registry, 2003). Younger women are fast becoming victims according to recent and other ongoing studies which reveal an incredible data of young women victims (Olowokere 2012). The second hypothesis revealed that there was no significant main effect of age on breast self-examination among women ($F_{(1, 91)} = .390$, $p > .05$, $\eta^2 = .004$). Hence, the null hypothesis was accepted. This denotes that there is no significant difference in the breast self-examination among women of old and young participants.

Younger women acquire the knowledge of breast self examination faster than the older ones although with minimal significance. According to Olapade *et al*.(2004), the age at which women develop breast cancer is 44 years and 51% of them are yet to reach menopause. Evidence from North America suggests that where there is a reasonable public awareness of the importance of screening, women attempt to utilize the knowledge obtained to benefit them. Nonetheless, compliance with regular BSE is reported by a minority of young women (Wardle, 1995). Moreover, reports from the United Kingdom are not so different among students aged 17-30 years from 20 European countries. In a sample of 16,486, 54% reported never having practised BSE, only 8% practise regularly while 36% practised occasionally. (Wardle, 1995). In the United Kingdom, women are encouraged to be breast aware from the age 18 but they do not engage in BSE regularly, contrary to stipulated instruction and the knowledge available to them. Also, Tanjaisiri, (2002) reported that among Togan-American women aged 40 and above, only 40% had ever performed BSE.

H0₃: **There is no significant main effect of educational attainment on Breast cancer screening among women.**

Table 4.14: Estimated Marginal Means (EMM) showing the differences in breast self-examination among women across the educational attainment

Educational Attainment	N	Mean	SD	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
High	48	40.9167	15.54107	2.24316	36.4040	45.4293
Low	52	38.1154	12.44699	1.72609	34.6501	41.5806
Total	100	39.4600	14.01617	1.40162	36.6789	42.2411

Interpretation and Discussion

Table 4.14 demonstrates that there was main effect of educational attainment on breast self-examination among women (F $_{(1, 91)}$ = 22.061, p < .05, η^2= .322). Therefore, the null hypothesis was rejected. The EMM on Table 4.13 further indicates that the mean score of the women with high educational attainment (estimated mean = 40.92), while that of the women with low educational attainment (estimated mean = 38.12). This implies that women with high educational attainment had higher breast self-examination knowledge than their

counterpart with low educational attainment. Studies have shown for example (Maclean, 1984) that women who attended breast screening were more likely to be of high socio-economic status, more sympathetic to screening and to have suffered less anxiety following the invitation/recommendations to attend. In a study conducted among 193 nurses in Poland, 63% knew almost everything about BSE (Frank, 2004). This indicates that medical education acquired by nurses made them knowledgeable about breast self examination.

The situation in Nigeria is not different. In a study conducted among female school teachers in Lagos, Nigeria, 62% practised BSE due to the information/ knowledge acquired to do so (Odusanya, 2001). Also, in a study carried out by Balogun and Owoaje (2006) among female traders in Ibadan, Oyo State, less than one third of the respondents (31.7%) were aware of BSE. Hence, from the above, it may be safe to conclude that women with high educational attainment had high disposition towards screening.

H0$_4$: **There is no significant two-way interaction effect of Behaviour Change Communication and age on Breast cancer screening among women**

Table 4.15: Estimated Marginal Means (EMM) showing the two-way interactive effect of treatment and age on Breast Self-Examination among women.

Experimental/Control	Age	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Behaviour Change Communication	High	47.798	2.324	43.182	52.413
	Low	49.514	2.190	45.163	53.865
Control	High	28.987	2.717	23.590	34.384
	Low	30.869	2.341	26.219	35.520

Interpretation and discussion

The above table shows that there was no significant interaction effect of treatment and age on breast self-examination among women ($F_{(1, 91)}$ = .002, p > .05, η^2 = .001). Hence, the null hypothesis was accepted. This demonstrates that age did not significantly moderate the efficiency of the treatment in enhancing breast self-examination among women. Age has also been suggested as important factor for uptake of screening Owens (1987) avers that both young and old would present for screening if adequately informed about the need for it.

Regardless of age, any woman would want to avoid morbidity and mortality as a result of breast cancer.

H0₅: **There is no significant two-way interaction effect of behaviour change communication and educational attainment on breast self-examination among women**

Table 4.16: Estimated Marginal Means (EMM) showing the two-way interactive effect of treatment and educational attainment on Breast cancer screening among women

Experimental/control	Educational Attainment	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Behaviour Change Communication	High	48.535	2.330	43.906	53.164
	Low	48.777	2.121	44.564	52.990
Control	High	33.247	2.183	28.911	37.583
	Low	26.609	2.402	21.839	31.379

The result in table 4.16 indicates that there was no significant interaction effect of treatment and educational attainment on breast self-examination among women ($F_{(4, 17)} = 2.057$, $p > .05$, $\eta^2 = .022$). Therefore, the null hypothesis was accepted.

Interpretation and Discussion

This result implies that educational attainment of women did not influence the effectiveness of treatment in enhancing breast self-examination among women. Frank (2004) asserts that, in spite of the clear understanding and the educational attainment of some nurses in Poland, their uptake of breast self examination practice was not influenced. This indicates that, despite medical education, nurses are not knowledgeable enough to do breast self-examination correctly and consistently. In a sample of women aged 20-64 years, living in ten cities of Northern Italy only 58% practice BSE (Ferro, 1992). Despite medical education and seemingly easy access to medical services, a study by Kulk 2003 among nurses in Dublin showed inadequate knowledge about the disease and lack of individual preventive actions by nurses, as only 24% of them performed regular monthly BSE. Petro-Nustus and Mikhaut (2002) reported that, among 519 women from two major universities in Jordan, 67% had heard or read about BSE, only 25% had ever practised BSE in the previous 12 months and only 7% performed it on a regular monthly basis.

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H0$_6$: **There is no significant two way intervention effect of age and educational attainment on breast self-examination among women**

Table 4.17: Estimated Marginal Means (EMM) showing the two-way interactive effect of educational attainment and age on breast self-examination among women

Educational Attainment	Age	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
High	High	40.087	2.532	35.058	45.116
	Low	41.695	2.455	36.819	46.571
Low	High	36.698	2.568	31.596	41.799
	Low	38.688	2.046	34.624	42.753

As revealed in Table 4.17 there was no significant interaction effect of age and educational attainment on breast self-examination among women (F $_{(1, 91)}$ = .007, p > .05, η^2 = .002). Therefore, the null hypothesis was accepted.

Interpretation and Discussion

This result revealed that age and educational attainment did not significantly influence breast self-examination among women. The implication of this hypothesis is that, although there is the tendency for younger women to embrace the utilization of breast self-examination for fear of dying early if they refuse, the older women too are prone to think the same way. As such, there seems to be no significant difference between the old and the young in the utilization of BSE. The picture is the same with the educational attainment of the participants. Both less educated and moderately educated participants approached the issue of BSE with slight significance in those moderately educated.

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H0₇: **There is no significant three way intervention effect of Behaviour Change Communication, age and educational attainment on Breast Self-Examination among women**

Table 4.18: Estimated Marginal Means (EMM) showing the three-way interactive effect of treatment, age and educational attainment on breast cancer screening among women

Experiment/control	Educational Attainment	Age	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Behaviour Change Communication	High	High	47.309	3.649	40.061	54.556
		Low	49.762	3.087	43.630	55.893
	Low	High	48.287	2.952	42.423	54.151
		Low	49.267	3.006	43.296	55.237
Control	High	High	32.865	2.942	27.022	38.708
		Low	33.629	3.688	26.303	40.955
	Low	High	25.108	4.243	16.679	33.537
		Low	28.110	2.570	23.005	33.215

Table 4.18 indicates that there was no significant interaction effect of treatment, age and educational attainment on breast self-examination among women ($F_{(1, 91)}$ = .176, p > .05, η^2 = .002). By implication, the null hypothesis was accepted.

Interpretation and Discussion

This analysis denotes that the impact of the treatment, age and educational attainment in enhancing breast cancer screening among women was not very significant. Forrest (1986); Harvey, (1997) Wardle et al. 2015 applauded the strength of screening in their different studies, the treatment advocated in this work, corroborated the position of these researchers because women responded positively although, age and educational attainment does not significantly enhance the effective uptake of this practice among women.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the study. It also concludes and gives some recommendations. It outlines limitations of this work and suggests areas for further studies.

5.1   Summary

The main thrust of this research was to examine whether behaviour change communication (BCC) strategy is effective in the utilization of breast cancer awareness and screening among women in Oyo and Osun States of Nigeria. This is in an attempt to ascertain the role of behaviour change communication as a tool to improving women's health and to establish the theoretical perspectives that encourage women's health communication. Moreover, the study sought to discover the most suitable type of communication to adopt in communicating health to women and to reveal impediments to women's health communication in a bid a to recommend ways of achieving and improving women's health through communication. The research is in five chapters.

Chapter one dealt with the introduction of the study, wherein the background to the study was discussed and all variables that would be used in the study was listed, including the statement of the problem, the objectives, significance of the study, scope and operational definitions of terms used in the study. The study examined relevant theories and reviewed related literature. This was made up of the theoretical framework, conceptual review of relevant literature as well as review of empirical studies. The review of literature has shown that Nigerian women have not fully grasped the full import of the need to screen for breast cancer to achieve early detection to forestall morbidity and mortality. The review of previous studies showed that the knowledge of BSE does not translate to the practice of BSE. Hence, this study is particularly interested in converting knowledge to attitude change and enforcing practice of BSE, especially since it is the easiest and cheapest way to discover any breast lump in the first instance.

The study used the non-laboratory experimental method in which 50 participants who volunteered to participate in the study were taken through eight week intervention programme by means of behaviour change communication messages. Fifty women were participants in the control group as well. This means that the experimental group was exposed to attitude and behaviour change messages by informed trainers who lectured and taught them how to perform BSE. For a period of 48 months, these participants were followed up closely to determine their screening and uptake as well as the extent of their influence on

their immediate environment. It was discovered that the participants adopted the screening and attitude and behaviour change was achieved in a significant number of the participants. The control group was not exposed to any intervention.

Chapter four presented the results and discussion of the hypothesis utilized for the study in relation to the previous related studies. The results revealed that the experimental group was influenced by the method of intervention which is exposure to knowledge of BSE and the need to practise it correctly and regularly to prevent avoidable death since early detection prevents morbidity and mortality. The interpersonal communication within a group approach worked because it allowed for face-to-face encounter which built trust among the communication parties.

For the relationship between pre-and post-knowledge and practise of screening among the experimental group, it was discovered that the knowledge of the participants were insufficient before the intervention whereas the knowledge increased after the intervention. This implies that there was significant effect of treatment on breast cancer screening behaviour. In essence, there was significant difference in the posttest behaviour of women exposed to treatment in breast cancer awareness and counselling. The experimental group had higher breast cancer screening behaviour mean score than in the control group. Besides:

- There was no significant main effect of age on breast self-examination among women while there was main effect of educational attainment on breast self-examination among women.

- There was also no significant interaction effect of treatment and age on breast self-examination among women as well as significant interaction effect of treatment and educational attainment on breast self-examination among women.

- The awareness of breast cancer screening among women was low and inadequate.

- The methods of breast cancer screening utilized by the women include breast self examination and clinical breast examination.

- The sources of information on breast cancer screening among women included print and/ or electronic media, medical personnel, friends and family and others (specifically, the behaviour change communication intervention), while others did not specify.

5.2   Conclusion

The findings of this study revealed that women were not adequately informed about breast cancer screening before study intervention and that the use of interpersonal communication within a group is a veritable channel of communicating health behaviour change messages among the lowly educated in society.

Moreover, the strategy of behaviour change communication worked for the intervention group because of the combination of the theories of diffusion of innovation, theory of planned behaviour and health belief model utilized and applied in the dissemination of information about breast cancer screening methods.

In the addition, the study revealed that the correct method of practising breast self-examination is pertinent to the sampled population. It is hoped that the study having exposed the sample population to the need for breast cancer screening with adequate knowledge of BSE will result in low morbidity and mortality.

Again, it is envisaged that the intervention of the study will reduce financial waste via treatment and forestall psychological and emotional pain associated with late presentation of breast cancer to physicians by the vulnerable. The findings of the study will inform policy makers on the types of effective policy intervention strategies to employ in communicating health behaviour change messages to the vulnerable.

The study revealed some of the reasons why the mass media is not achieving significant result in its intervention and communication efforts of disseminating health behaviour messages to women. Examples are sporadic and inconsistent media messages on breast cancer screening and the insufficient messages relayed on how to practise breast screening.

Finally, the study exposed the gaps in previous strategies used in health behaviour change communication approaches, such as single approach of leaflet distribution, special once–in-a-year cancer day awareness programme and many more. The result of the study proposed a multipronged approach to interpersonal communication within a group as a new method and effective strategy for communicating health behaviour change messages among women. This is with the intent that every stakeholder stands to benefit from the results of this current situation regarding disseminating health behaviour messages to the lowly in the society.

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5.3   Policy implications

This study explored a different approach to communication intervention, in that it fused interpersonal communication with group communication to achieve behaviour change. Hitherto, communication approaches have been singular and, where multipronged they used one method/type at a time or rather systematically. Besides, attempts at combining methods have not been documented even if they have been experimented. Hence, this study is significant to have employed the strategy of interpersonal communication within a special or purposive group. Usually, interpersonal communication is restricted to dyads and triads, regarded as small group. In this study, the group was not the regular defined constituted group in studies of communication. Thus, both dyads and triads communication methods fused to achieve exponential results in reaching a considerable significant number of people whose behaviour towards health check/screen changed.

It is important for policy makers saddled with intervention programmes to fuse/merge multiple communication approaches to achieve behaviour change in target groups. Although the mass media is designed to reach a vast populace, it may not be strong enough to achieve attitudinal change or sustained practice because this requires reinforcement and continuity, in financial terms, heavy funding and honest management of such funds is required to achieve significant change through the avenue of mass media. However, the approach of interpersonal communication within a target group may appear slower but has a long term positive and lasting effect eventually. In fact, if policy makers and funding organizations provide adequate funding (such that is available in media campaigns) the interpersonal communication within a group will achieve a faster and lasting result of knowledge, attitudinal change and practice among the target group swifter than individuals' unfunded effort.

5.4   Recommendations

Based on the findings of this study, there is a need to intensify the level of knowledge, awareness and utilization of BSE specifically amongst lowly placed women so as to improve and sustain its practise. Moreover, health service providers and physicians should promote BSE du#ring their contact with female patients. In order to function as effective promoters of breast screening in a bid to control cancer through early detection, advocacy groups should also possess the accurate knowledge and the appropriate attitude and practice concerning the disease and its early detection. In the light of the foregoing, the following are advised:

- Regular planning of educational programmes which will give information about the symptoms, findings on the breast cancer research and the importance of BSE for the early diagnosis among groups/ associations.

- Reaching a wider public audience by the interaction (via interpersonal communication avenues) between the health care students, who have sufficient knowledge about this subject, and their peers about the education and this subject;

- Extended intervention that is duly monitored and evaluated;

- Frequent educational programmes and awareness to target groups in order to constantly remind them of the need for BSE;

- Incorrect practice among the sensitized women demonstrates the inadequacy of education among women regarding BSE. Institutions involved in public education for early diagnosis of breast cancer (BC) should continue to teach women of all educational levels about BSE. Specifically, the teaching of BSE techniques should be of priority for all women, regardless of their educational level.

- Acquisition of higher education positively affects the practice of BSE in women and propels their uptake of the new behaviour as well as the continued practice of it with or without any external influence.

5.5   Contributions to knowledge

The major contribution of this work to knowledge is formulation of a new model for uptake of Behaviour change communication among lowly women in the society. The model evolved from the fusion of health belief model, diffusion of innovatios theory and the theory of planned behaviour.

Significantly, this study created awareness and sensitize the underresearched and lowly women to the need for breast cancer screening, particularly regular monthly breast self examination check as a potent antidote to preventing morbidity and mortality from breast cancer disease.
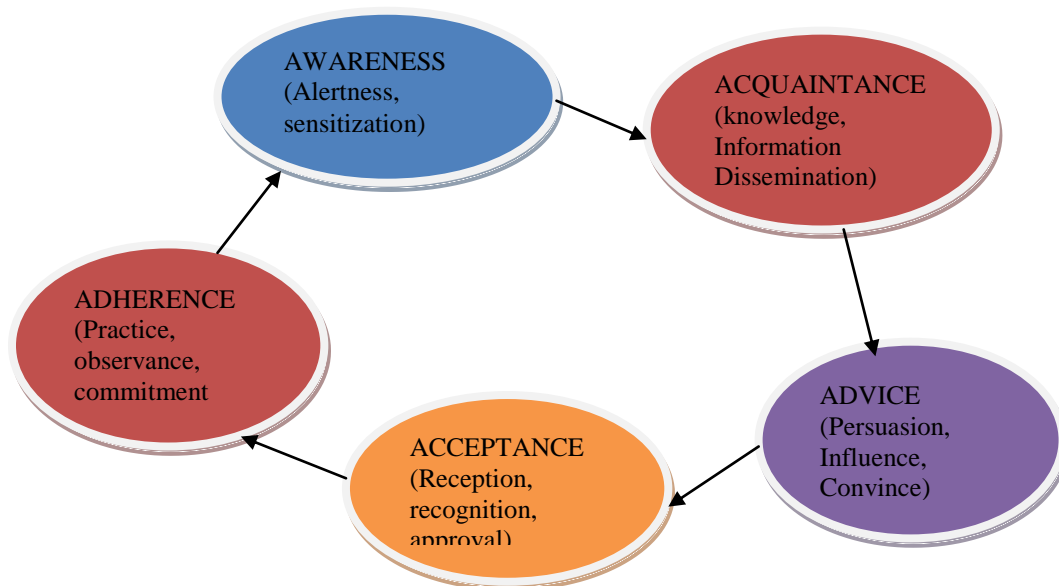
5 A'S OF Behaviour Change Communication

Source: Researcher, 2017.

Awareness: This is the first contact of the female menial workers with the message on breast cancer from a behaviour change communicator.

Acquaintance: The receiver is alerted and sensitized to the information on the disease called breast cancer and how to screen or detect the disease as well as the very important steps to take to prevent morbidity and mortality.

Advice: The female menial worker is then informed appropriately on one of the cheapest, easiest and simplest method of screening for breast cancer- breast self-Examination. The best time to do a BSE is a week after the menstrual cycle starts that is, one week after the last menstrual cycle (LMP). It must be done on a particular date and time of the month and any unusual discovery is swiftly reported.

Acceptance: At this stage, the female menial worker understands the implication of screening, is very familiar with the details and intricases of the practice of BSE, can easily detect any strange abnormality in the breast during self-examination and is willing to report same for further screening by medical personnel as may be determined by them

Adherence: The female menial worker has adopted the behaviour change and there is no need for further persuasion to carry out the adopted practice. It has become a lifestyle and it is done regularly and correctly without any external influence to do so.

Moreover, The significance of 5A's of Behaviour change communication model is nestled in its connection and combination of the two theories and one model utilized in the study-Diffusion of innovations, theory of planned behaviour and health belief model.

The model, 5A's of Behaviour change communication emphasizes the importance of sensitization and awareness creation regarding the realities surrounding breast cancer disease as well as the potential antidote to forestalling mortality from the disease. Hence, once a woman is acquainted with the details of the workings of breast cancer, with expert advice,

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she could adopt the strategy of breast self examination which will alert her to any impending eruption of breast cancer. Accepting and adherence to the procedural practice of breast self examination would enable a woman to report any unusal signs that may be benign or cancereous. If cancerous, early detection wuld enhance early treatment and cure as well as forestall morbidity.

Further contribution of this work to knowledge is that non-medical personnel should carry out health risk research to corroborate or contradict the findings of medical personnel, for this will lend credence to medical research

Currently, available data on sensitization of women for utilization of breast cancer screening is limited to the elite women. However, the focus of this study was on lowly and semi-literate women- a segment hitherto under-researched. The study was able to increase awareness regarding the importance and the practice of BSE among women of low socio-economic status and encourage utilization of BSE.

Moreover, because cancer burden is under-reported and under-researched in Nigeria, effective method of communicating the need for screening has not been determined. However, this study submitted that interpersonal communication in a group could be a veritable tool to accomplish sensitization and achieve utilization by the not-so-educated category of women.

5.6   Limitation of the study

The intervention was conducted in the rural-urban community of Iwo in Osun State of Nigeria. Hence, the results may be generalized with relative caution. The study participants were not stark illiterates; therefore, intervention and post intervention assessments was not a one-time activity. Rather subsequent interventions followed systematically over a period of 48 months.

5.7   Suggestions for further studies

BCC is critical to the prevention, management and treatment of many important health conditions. However, the initiation and maintenance of behaviour can be very difficult. It is not enough for behavioural and social scientists to do rigorous research and develop effective interventions; There must also be delivery channels (communicators) in place to disseminate these interventions to the public, policy makers, and other decision-makers to ensure that they are implemented, adopted and maintained. In this regard, further research

may investigate a combination of the methods adopted in this study with the mass media making it a three-pronged approach.

Future studies may also investigate the experiences of participants while attempting to influence people within their sphere of influence. They may also attempt a comparative analysis among other regions in the country to compare results which could be generalized.

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PILOT STUDY QUESTIONNAIRE ON EFFECT OF BEHAVIOURAL CHANGE COMMUNICATION AND UTILISATION OF BREAST CANCER SCREENING

Dear Respondents,

Kindly respond by filling in the gaps or by circling the appropriate number. When necessary choose as many options as apply. Thank you

SECTION A

Demographic information.

1.   Age {in years}:   1. 20-25   2. 26-35   3. 36-45   4. 50 and above

2.   Ethnic Group: 1. Yoruba   2. Igbo   3. Hausa   4. Other, pls, specify----------

3.   Marital Status: 1. Single   2. Married 3. Divorced 4.Widow

4.   Religion: 1 Christianity 2. Islam   3. Other, pls, specify--------------------

5.   Domicile: {Iwo/ Ibadan} .... vii. LGA..............................

6.   Occupation:

     1. Housewife   2. Trader   3. Cleaner

7. Highest grade of school completed:

        1. None   2. Elementary 3. Secondary   4. Tertiary 5. Other----------------

8. How long have worked as a cleaner

        1. Less one year; 2. 1-2 years; 3. 3-4 years;   4 5 years & above.

SECTION B

Breast Cancer (knowledge)

9. Do you know about the disease called cancer? Yes...........   No........... Don't know......

10. Has anybody close you had any type of cancer? Yes........... No........... Don't know........

11. If yes to no 11, cancer of which part of the body?..

12. Have you heard about cancer of the breast? Yes.......... No............ Cannot remember.

13. What do you know about cancer of the breast? ....

14. What is the source of your information about cancer of the breast?

        1. Print and/ or electronic media   2. Internet   3. Medical journals/books/leaflet.

15. Have you listened to a health talk on breast cancer before? Yes... No.... Cannot remember................

16. If yes to 15, what type of heath talk? 1. Radio   2.TV   3. Public lecture in church/ mosque   4. Other public lecture (where................) 5. Other------------------

17. As a health problem in women, how will you rate cancer of the breast? ------------

18.What do you know or think cause (s) cancer of the breast?

    1. I don't know   2. Lumps become cancer if not removed   3. Poverty

    4. Environmental factor   5. It is inherited   6. Genetic changes   7. Dietary factors

    8. Occultic /satanic affliction.   9. Other------------------------

19. Who do you think is at risk of developing breast cancer?

    1. I don't know   2. Any woman   3. Any woman with a breast lump   4. Women with a family history of breast cancer .5. Promiscuous women   6. It is the disease of the elites 7. Low socio-economic class   8. Other.................................

20.   What   symptoms/signs   (manifestation)   of   breast   cancer   do   you   know? ....

21. Do you think cancer of the breast is preventable? Yes.......... No.......... don't know........

22. If yes, how may it be prevented? 1......................... 2................... 3...........................

23. Do you know if cancer of the breast can be cured? Yes....... No...... ...   don't know ....

24. If yes, what factors (s) might contribute to its curability? ....

25. How do you think breast cancer can be detected and treated early? 1. Breast self examination 2. Mammogram 3. Clinical breast examination. 4 Cancer awareness programmes 5. Don't know 6. Other......................

26. Do you know if cancer of the breast can occur in men? Yes........ No.......... don't know.....

27. Has someone you know ever had cancer of the breast? Yes...... No...... Don't know..........

28.   If   yes,   what   is/are   the   person(s)   relationship   to   you? ....

29. What type of treatment did the person receive?   1. Medical   2. Traditional 3. Spiritual 4. Nothing. 5. Other....................................

30. What was the outcome for the person?   1. Treated and cured   2.Still receiving treatment

3. Dead   4. Other...

31. What do you think is your life time chance of having breast cancer?

    1. None 2. Minimal   3. Moderate   4. High 5. Don't know.

SECTION C

Screening {testing} for {early detection} breast cancer

32. Are you aware of any breast cancer screening programme? Yes............ No...............

33. If yes, which?..

34. Have you subjected yourself to any? Yes.............. No............ Don't know…………

35. If yes, which?..

36. Will you be willing to subject yourself to be tested for breast cancer? Yes........... No........
    Don't know……………………………

37 If not, why not?   1. I do not consider it necessary   2. I am afraid of a positive finding
    3. Breast cancer does not run in my family 4. I believe I will not have breast cancer
    5. It may lead to removal of my breast 6. Other...............................

38. Who do you think should go for breast cancer screening? ....

39. Do you know breast Self Examination (BSE)? Yes........No.......... If No, pls go to no44.

40. If yes, when do you do BSE? 1. Before my monthly period   2. After my monthly period
    3. In-between-period   4. During my period   5.Anyday of the cycle 6. Others, pls,
    specify.....

41. How often do you do BSE?   1 Monthly   2 Every three to six monthly 3.At least once
    yearly 4. Anytime I feel like doing it 5. Whenever I hear/read about it 6. Other, pls
    specify............

42. If you do not do monthly BSE, why do you not do it?   1. It does not run in my family 2.
    I do not know how to do BSE   3. Fear of discovering something 4. I believe I will not
    develop a lump. 5. My friends/ colleagues don't do it. 6. Other....................................

43. Have you heard about mammogram? Yes................... No........................

44. Have you done a mammogram? Yes......................... No..........................

45. Do you know of someone who has done a mammogram? Yes……… No............... Cannot
    remember…………………..

46. Will you be willing to do periodic mammogram to screen for breast cancer?
    Yes................   No..............   Don't know........................

47. What other screening test{s} for breast cancer do you know?
    1........................   2....................   3.............................

48. Will you recommend regular breast screening for your friends/ colleagues/sister/mother?
    Yes................ No .... don't know.......................

APPENDIX II

PRE AND POST STUDY QUESTIONNAIRE ON EFFECT OF BEHAVIOURAL CHANGE COMMUNICATION AND UTILISATION OF BREAST CANCER SCREENING

SECTION A

Demographic information.

7.   Age {in years}:   1. 20-25   2. 26-35   3. 36-45   4. 50 and above

8.   Ethnic Group: 1. Yoruba   2. Igbo   3. Hausa   4. Other, pls, specify----------

9.   Marital Status: 1. Single   2. Married 3. Divorced 4.Widow

10.   Religion: 1 Christianity 2. Islam   3. Other, pls, specify--------------------

11.   Domicile: {Iwo/ Ibadan} .... vii. LGA................................

12.   Occupation:

      1. Housewife   2. Trader   3. Cleaner

7. Highest grade of school completed:

          1. None   2. Elementary   3. Secondary   4. Tertiary   5. Other----------------

8. How long have worked as a cleaner

          1. Less one year;   2. 1-2 years;   3. 3-4 years;   4 5 years & above.

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Breast Cancer (knowledge)

9. Do you know about the disease called cancer? Yes...........   No........... Don't know......

10. Has anybody close you had any type of cancer? Yes........... No........... Don't know.........

11. If yes to no 11, cancer of which part of the body?..

12. Have you heard about cancer of the breast? Yes.......... No............ Cannot remember.

13. What do you know about cancer of the breast? ....

14. What is the source of your information about cancer of the breast?

      1. Print and/ or electronic media   2. Internet   3. Medical journals/books/leaflet.

15. Have you listened to a health talk on breast cancer before? Yes... No.... Cannot remember.................

16. If yes to 15, what type of heath talk? 1. Radio   2.TV   3. Public lecture in church/ mosque   4. Other public lecture (where................) 5. Other-------------------

17. As a health problem in women, how will you rate cancer of the breast? ------------

18. What do you know or think cause (s) cancer of the breast?

    1. I don't know   2. Lumps become cancer if not removed   3. Poverty

    4. Environmental factor   5. It is inherited 6. Genetic changes 7. Dietary factors

    8. Occultic /satanic affliction.   9. Other------------------------

19. Who do you think is at risk of developing breast cancer?

    1. I don't know   2. Any woman   3. Any woman with a breast lump   4. Women with a family history of breast cancer .5. Promiscuous women 6. It is the disease of the elites 7. Low socio-economic class 8. Other...................................

20.   What   symptoms/signs   (manifestation)   of   breast   cancer   do   you   know? ....

21. Do you think cancer of the breast is preventable? Yes.......... No.......... don't know........

22. If yes, how may it be prevented? 1.......................... 2.................. 3............................

23. Do you know if cancer of the breast can be cured? Yes....... No...... ... don't know ....

24. If yes, what factors (s) might contribute to its curability? ....

25. How do you think breast cancer can be detected and treated early? 1. Breast self examination 2. Mammogram 3. Clinical breast examination. 4 Cancer awareness programmes 5. Don't know 6. Other.....................

26. Do you know if cancer of the breast can occur in men? Yes........ No.......... don't know.....

27. Has someone you know ever had cancer of the breast? Yes...... No...... Don't know..........

28.   If   yes,   what   is/are   the   person(s)   relationship   to   you? ....

29. What type of treatment did the person receive? 1. Medical 2. Traditional 3. Spiritual 4. Nothing. 5. Other.....................................

30. What was the outcome for the person?   1. Treated and cured 2.Still receiving treatment

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31. What do you think is your life time chance of having breast cancer?

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32. Are you aware of any breast cancer screening programme? Yes............ No...............

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    3. In-between-period   4. During my period   5.Anyday of the cycle 6. Others, pls,
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45. Do you know of someone who has done a mammogram? Yes……… No............... Cannot
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47. What other screening test{s} for breast cancer do you know?
    1........................   2.....................   3..............................

48. Will you recommend regular breast screening for your friends/ colleagues/sister/mother?
    Yes................ No .... don't know......................

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Demographic information.

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14.   Ethnic Group: 1. Yoruba   2. Igbo   3. Hausa   4. Other, pls, specify----------

15.   Marital Status: 1. Single   2. Married 3. Divorced 4.Widow

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17.   Domicile: {Iwo/ Ibadan} .... vii. LGA...............................

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SECTION C

Screening {testing} for {early detection} breast cancer

32. Are you aware of any breast cancer screening programme? Yes............   No...............

33. If yes, which?...

34. Have you subjected yourself to any? Yes.............. No............ Don't know…………

35. If yes, which?...

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3. Breast cancer does not run in my family 4. I believe I will not have breast cancer

5. It may lead to removal of my breast 6. Other...............................

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43. Have you heard about mammogram? Yes.................. No.........................

44. Have you done a mammogram? Yes........................ No..........................

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46. Will you be willing to do periodic mammogram to screen for breast cancer?

Yes................   No..............   Don't know.........................

47. What other screening test{s} for breast cancer do you know?

1.......................   2......................   3...............................

48. Will you recommend regular breast screening for your friends/ colleagues/sister/mother?

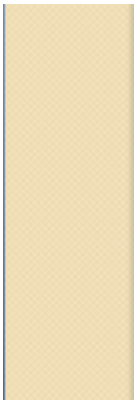Yes................ No .... don't know.......................

3.4.5. Procedure (Modules used for the Study)

Schedule and Content of the Intervention programme

MODULES
FOR BEHAVIOUR CHANGE
COMMUNICATION
AND
UTILIZATION OF BREAST CANCER
SCREENING METHODS
AMONG MENIAL FEMALE UNIVERSITY
WORKERS IN OYO AND OSUN STATES OF
NIGERIA
BY
JAIYEOLA ARAMIDE OYEWOLE

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MODULE I
What is Breast
Cancer?

- ISORI KINNI
- Kinni Aarun Jejere
- Oyan?

- Breast cancer begins in the breast tissue that is made up of glands for milk production, called lobules, and the duct that connect the lobules to the nipple.

- Breast cancer typically is detected either during a screening examination, before symptoms have developed, or after symptoms have developed, when a woman feels a lump.

- Aarun Jejere oyan beere ninu isu oyan ti o papo mo eya ara kan ti a npe ni glandi ti o nsun wara (milk), ti a npe ni lobuli, awon lobuli yi lo so mo ikori oyan.

- A maa nse awari aarun jejere oyan boya nigba ti a ba nse ayewo finni-finni (Screening examination), ki o too di pe amin re dagba, tabi nigbati amin re ba dagba, ti obinrin si se akiyesi koko kan lara oyan

Most masses seen on a mammogram and most breast lumps turn out to be benign, that is they are not cancerous, do not grow uncontrollably or spread, and are not life threatening.

When breast cancer is suspected based on BSE, CBE, or Mammogram, the stage/status of the cancer is then determined whether it is still localised(in situ) or invasive.

Localised/in-situ: the breast cancer has not grown beyond the layer where it originated

Invasive: the breast cancer has broken through the ductal or glandular walls and spread to the surrounding breast tissue.

Pupo ninu awon koko ti a nri lara oyan loje pe koko kan lasan ni, eyi ti o tumo si wipe, won kii se aarun jejere, eeyan le kapa won, beeni won kii tankale (spread), won kii se ohun ti o le gba emi.

Nigba ti a ba fura si jejere oyan nipase awon iwadi bii BSE, CBE tabi Mammogram, igba yi ni a to le mo ipo ti o wa, yala, o si wa ni ipo re (in-situ), tabi eyi ti o ti gboregejige Invasive.

Ti akoko (in-situ): ni jejere oyan ti ko ti dagba koja ipele ibi ti o ti wa.

Eyi ti o ti gboregejige (invasive): ni jejere oyan eyi ti o ti ba ogiri ti ipo oyan gbarale je.

There are two main staging systems for cancer. The TNM classification of tumour is employed:

T – uses information on tumour size and how far it has spread within the breast.

N – the extent of spread to the nearby lymph nodes

M- the presence or absence of distant metastes

Ipin meji pataki ni awon ona ti jejeere pin si: A lo nkan ti a npe ni TNM lati se igbelewon isu eemo bayi:

T – Se amulo bi isu emo se tobi to, ati bi o ti gbile to ninu oyan.

N – Nfi ye wa bi o ti se gbile to ninu omi ara

M – Eyi nse afihan boya isu-eemo (metastes) si wa ninu ara tabi ko si.

Breast cancer has 4 stages:	Ipele merin jejere oyan:
Stage 0 is in situ cases of non spread	Ipele ipilese – o si wa ni ipo re ko ti ran.
Stage 1 early stage of invasive cancer	Ipele akoko – Ibere mi maa tan kale jejere.
Stage II and III medium and higher invasive cancer	Ipele ikeji ati iketa – Ipele aarin ati giga itankale jejere.
Stage IV it is the advanced stage of invasive cancer.	Ipele kerin – Ipele ti o gaju itankale jejeere.

MODULE II

ISORI KEJI

What are the signs and symptoms of breast cancer?

Kinni awon amin apere aarun jejere oyan?

Breast cancer typically produced no symptoms when the tumour is small and most easily cured.

Therefore, it is very important for women to follow recommended screening guidelines for detecting breast cancer at an early stage

When breast cancer has grown to a size that can be felt, the most common sign is a painless lump.

Sometimes, breast cancer might have spread to underarm lymph nodes and cause a lump or swelling, even before the original breast tumour is large enough to be felt.

Jejere oyan kii saaba fi amin kankan han nigbati isu eemo yi wa ni kekere. Eyinni ni wipe o si se wosan.

Nitorinaa, o se pataki fun awon obinrin lati maa tele awon alakale ayewo fun atile sawari aarun jejere oyan nigbati o ba sese bere.

Nigbati aarun jejere oyan ba dagba de ibi ti eniyan le ni imolara re, amin to wopoju ni lati sakiyes ibi kan ti o wu sugbon ti ko dun eniyan.

Ni opolopo igba, aarun jejere oyan le ti tan ka gbogbo padi omi ara ki o si mu ki abala kan wu, paapaa ki o too di wipe isu eemo oyan tobi to nkan ti eniyan le mo lara.

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Other less common signs and symptoms include:

* Breast pain or heaviness.
* Persistent changes to the breast, such as swelling, thickening or redness of the breast skin.
* Nipple abnormalities such s spontaneous discharge especially if bloody.
* Erosion, inversion or tenderness of the breast
*Pain or lack of it does not indicate the presence or absence of breast cancer.
*Any persistent abnormality in the breast should be evaluated by a physician as soon s possible.

Awon apere pee-pe-pe miran ti eniyan le ri ni iwonyi:

❖ Oyan riro tabi wiwuwo
❖ Ayipada igbagbogbo lara oya, bii ki o maa wu, kio maa gbopon, tabi ki o maa pupa feere fe
❖ Ki ikori oyan ri bi ko ti ye ki o ri, bii ki eje maa jade.
❖ Yiyinrin tabi isorikodo oyan lona to yato.
❖ Ki oyan maa ro ni tabi kio se alaironi ko tumo si pe eniyan ni jejere oyan tabi ko ni.
❖ Gbogbo nkan ti o ba nwaye tabi sele si oyan nigba gbogbo ni onisegun oyinbo gbodo mo si logan.

Any survival rate?

Nje awon eniyan nruu la bi?

Yes.

More than 2.9 million US women with history of breast cancer were alive on January 1, 2012. Some are cancer free and others still undergoing treatment.

Bee ni.

O le ni millionu meji ati eedegberun million (2.9m) awon obinrin ni ile America pelu aisan jejere oyan ti won si wa laye titi di osun kinni odun 2012. Ti awon kan tile ti san, nigbati awon yoku si ngba itoju.

MODULE III

Who gets breast cancer/ breast cancer risk factors?

ISORI KETA

Awon wo lo le ni aarun jejere oyan/Kinni awon nkan ti on fa aarun jejere oyan?

- Sex – women with breast as well as men.
- Age –breast cancer can occur in women between ages 20 and 80 years.
- Race/ Ethnicity- white women and now black women are affected, however, black men have higher risk of breast cancer than white men.

- Tako-tabo – Awon obinrin ti o ni oyan pelu awon okunrin bakan naa.
- Ojo-Ori – Jejere oyan le mu obinrin ti o wa laarin ogun odun si ogorin odun (20-80).
- Awo tabi Eya – Awon obinrin alawo funfun lo koko nni, sugbon bayi obinrin alawo dudu naa nni, awon okunrin alawo dudu ni o ni ewu lati ni jejere oyan ju awon okunrin alawo funfun lo.
- Idiwo nipa omo bibi ati ki a ni iwonba omo die.

- Delayed Childbearing and having fewer children.
- Family history of Breast Cancer- women with breast cancer history in first degree relative i.e. mother, sister, daughter father or brother.
- Genetic Predisposition- 5%-10% of breast cancer cases resulted from inherited mutations.

- Bi jejere oyan ba wa ninu iran – yala ki mama, arabinrin, baba tabi arakunrin ti ni, oluwa re pelu le nii.
- Ajogunba – Ida marun ninu ogorun si ida mewa ninu ogorun aisan jejere oyan lo maa nwa nipa ajogunba.
- Jejere oyan le bere lori enikan – Awon obinrin ti won ba ti ni aisan yi ri tun wa lowo ewu ati nii leekeii.
- Bi oyan ba loorin tabi tobi ju – Eyi je okan ninu awon nkan ti o nfaa. Ki oyan tobi ju le je ajogunba, nkan ti o maa nmu ki eleyi dinku ni oyun nini ati ke eniyan ma se nkan osu mo.

- Personal History of Breast Cancer – women with breast cancer history are at increased risk for developing second breast cancer.
- Breast density – High breast tissue density is a risk factor. Breast density is influenced by inherited genetic factors but decreases with age and is further reduced by pregnancy and menopause.
- Hormone levels – post menopausal women with high levels of estrogens and testosterone produced naturally in the body as well as postmenopausal obesity.

- Nkan Osu Sise tabi Osu-abo – Awon ti o tete bere nkan osu ki won too pe omo odun meiila, tabi ti won dawo re duro leyin omo odun marun le laadota (55) wa lowo ewu ti o ga ju lati ni jejere oyan.
- Asiko Iloyun – Awon obinrin ti won loyun akoko ki won too pe omo ogbon odun, ti won si tun nloyun sii ndin ewu ku lati ni jejere oyan. Sugbon awon ti won ti dagba gan ki won too bi akobi le ni.
- Fifun Omo loyan – fifun omo loyan fun bi odun kan tabi meii le dena ati ni jejere oyan ku die, nigbati fifun omo loyan fun igba pipe le din ewu jejere oyan ku gan.

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- Menstrual Cycles- women who started menstruation before 12years or who stopped after 55years have higher risk of breast cancer.
- Pregnancy – Younger age first pregnancy before 30years and more pregnancies reduce breast cancer. But older women at first birth may be susceptible.
- Breastfeeding – breastfeeding for a year or more slightly reduces breast cancer while longer period of breastfeeding reduces breast cancer greatly.

- Other Risk Factors are: Radiation Exposure, occupational exposures, alcohol and tobacco, obesity and weight gain, uncontrolled diet and lack of physical activity/exercise.
- Consequently, abortion, hair dyes and antiperspirants, as well as breast implants are not associated with breast cancer.

- Awon Ona Ewu Miran: Sisunmo itansan, Oti lile, Siga mimu, Ara sisanju, Ki eniyan wuwo ju, Onje ajeju, Aise ere idaraya.

- Paripari e, oyun sise, pipa irun laro (hair dyes) ati oogun ilaagun, ati gbigbin oyan mo ko ni nkankan se pelu jejere oyan.

MODULE IV

Breast Screening Methods

ISORI KERIN

Awon Ona Ti a Ngba Sayewo Oyan

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- **B**reast Self Examination- All women should become familiar with both the appearance and feel of their breast and report any changes promptly to the doctor.

- Clinical Breast Examination – For women in their 20s and 30s it is recommended that CBE be done every 3years. For women 40 or older, annually as complement to mammography.

- Mammography –is a low dose x-ray procedure that allows visualization of the internal structure of the breast. Dedicated mammography units used today result in higher quality images with a considerably lower x-ray dose than the general purpose x-ray equipment used in the past. There is digital mammography which appears more accurate for women younger than age 50 and with dense breast. Studies have shown that mammography may sometimes give false positive result, make over diagnosis, expose patients to radiation exposure and finally, it is not absolute in its findings

- **Yiye Oyan wo funra eni** – Gbgbo obinrin lo gbodo ti mo bi a se nse ayewo oyan won, ki won si se alaye ohun ajeji ti won ba se akiyesi fun awon onisegun oyinbo lesekese.

- **Sise Ayewo Oyan Nile Iwosan** – fun awon obinrin ti won ti pe ogun odun ati ogbon odun, o se pataki pe ki won maa se CBE ni odun keta-keta. Fun awon obinrin ti won ti le ni ogoji odun (40) tabi ju bee lo, odoodun lo ye ki won maa se eyi.

- **Mamography** – je ero iyaworan aisan ti ko ga ju ti o maa nfun eniyan ni anfaani lati ri gbogbo hule-hule awon eya ara oyan. Orisirisi ni awon ero iyaworan ara wonyi pin si. Orisi kan wa ti a npe ni **digital mamography**, eyi wulo gidigidi fun awon obinrin ti ojo ori won ko tii ju aadota odun (50) lo pelu oyan ti o wuwo. Bi o tile je wipe, iwadi fi han wipe ero ayaworan eya ara yi le gbe abajade ti ko fesemule wa ni akoko, sugbon sibe, leyin ayewo, a maa se afihan ipo ti alaisan wa, bi o tile je wipe kii se gbogbo re lo le gbe jade.

- Breast Ultrasound – It is sometimes used to evaluate abnormal findings from screening or diagnostic mammogram or physical examination. Ultrasound may detect more in women with dense breast tissue.

- Chemoprevention- The use of drugs to reduce the risk of disease is called chemoprevention. Clinical trials showed that Tamoxifen and Raloxifene drugs significantly reduce the risk of breast cancer in susceptible women.

- Magnetic Resonance Imaging - Uses magnetic fields instead of x-rays to produce detailed cross-sectional images of the body. It uses dedicated breast cancer equipment, it is expensive than mammography, it requires special facilities.

- MRI screening is not recommended for women whose lifetime risk of breast cancer is less than 15% but suitable for women with high and moderate lifetime risk of 20-25%.

Ayewo oyan nipa ultrasound – Eyi ni a maa nlo lati se igbelewon awon ohun ti a ri nipa ayewo mammogram. Nipa sise amulo ultrasound, a le se awari jejere lara awon obinrin ti oyan won tobi lati ara isu oyan.

Lilo oogun lati dena aisan (Chemoprevention) – Eyi ni lilo awon oogun kan lati din ewu ati le ni aisan jejere ku. Nipa didan awon ogun bii Tamoxifen ati Raloxifene ni ile iwosan, a ri wipe o din ewu ati ni jejere oyan ku lopolopo laarin awon obinrin ti o ye ki o ni aisan yii.

Magnetic Resonance Imaging - Eyi nse amulo Onfa Ayaworan dipo eyi ti a mo si x-rays lati le se ayewo gbogbo ara finni-finni. O tun nse amulo awon ohun eelo iwadi jejere oyan ti a ya soto, o won pupo lati lo ju mammography lo, o nilo awon asayan ohun elo kan.

- A ko gba awon obinrin ti o je pe ida medogun ninu ogorun (15%) ni ewu ti won ni lati ni jejere oyan niyanju lati lo MRI, sugbon o wulo pupo fun awon obinrin ti won ni ida ogun si meedogbon ninu ogorun (20-25%) ewu lati ni jejere oyan.

MODULE V

Breast Cancer Treatment

ISORI KARUN

Itoju Aarun Jejere Oyan

(A) Surgery

The primary goal of breast cancer surgery is to remove the cancer from the breast and to determine the stage of the disease.

*Types of surgery
* Breast Conserving Surgery or Mastectomy is done to only cancerous tissue plus a rim of normal tissue is removed. Simple or total mastectomy includes removal of the entire breast.
* Modified Radical Mastectomy-includes removal of the entire breast and lymph nodes under the arm
* Radical Mastectomy is rarely used because it involves all of the above and the underlying chest muscles and may not remove all the cancer.

(B) Radiation Therapy

This is the use of high energy beams or particles to kill cancer cells.

(A) Ise Abe

Afojusun akoko funsise ise abe ni lati mu jejere oyan kuro ati lati mo bi aisan naa ti gbile to.

❖ **Awon Orisi Ise Abe**
- **Ise Abe Lati Pa Oyan Mo** (Breast Conserving Surgery). Eyi ni a nse si isu oyan nigba ti a ba ge isu ti ko tii baje kuro. O si le sele pe ki gbogbo oyan je mumu kuro.
- **Sise Atunse Ipile Nipa Gige Oyan Kuro** (Modified Radical Mastectomy) – Eyi ni gige oyan kuro patapata ati padi omi ti o wa labe apa.
- A kii saaba lo gige oyan kuro nitoripe o nii se pelu gbogbo awon ti a ti salaye soke, ati wipe o nii se pelu isan igba aya, o si tun seese pe ki gbogbo jejere naa masee ko kuro tan.

(B) Itansan bi Oogun

Eyi ni sise amulo agbara itansan ina nla lati pa awon jejere ti o farapamo si ago ara.

(C) Systemic Therapy

This is treatment that travels through the bloodstream and affects all parts of the body, not just the cancer.

(D) **Ogun Atoraja**

Eyi ni orisi itoju kan ti yio to gbogbo eya ara ja nipa isan eje, kii se fun jejere nikan.

Human Communications Department

Faculty of Social & Management Sciences

Bowen University, Iwo

Osun State,

April 21, 2010

The Coordinator,

Bowen University Ventures,

(Cleaning Unit)

Iwo,

Osun State.

Dear Sir,

REQUEST FOR PERMISSION TO ENGAGE BOWEN UNIVERSITY VENTURES WORKERS (CLEANING UNIT) IN A FIELD EXPERIMENT STUDY

I write to request for permission to engage the female cleaners working in the Bowen University ventures department in a field experiment study.

The cleaners will participate voluntarily in a focus group discussion/training on the need for breast cancer screening.

This training will be from April 22 – June 10, 2010.

Thank you for your favourable response in this regard.

Yours faithfully

Jaiyeola Oyewole

Human Communications department

Faculty of social & Management Sciences

Bowen University, Iwo

Osun State.

April 21. 2010

The Head of Department,

Mass Communications Department,

Faculty of social and Management Sciences

Bowen University,

Iwo,

Osun State.

Dear Madam,

REQUESTS FOR USE OF THE AMPHITHEATRE

I write to request for permission to use the Amphitheatre for a research experiment.

I promise to not to tamper with the facilities in the hall and I shall take responsibility for any

incidence arising from my use of the place within next few weeks.

I shall make use of the hall one hour every Thursday from April 22 through June 10. 2010.

Thank you for your positive an swift response in this regard.

Yours Sincerely

Jaiyeola Oyewole