BREAST CANCER AND SPOUSAL RELATIONSHIP IN THE IBADAN METROPOLIS, NIGERIA

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CERTIFICATION

I certify that this thesis is an original work carried out by Morounfoluwa Oluwatosin OYEBOLA (Matric. No.:75168),under my supervision, and submitted to the Department of Sociology, Faculty of the Social Sciences, University Ibadan, Nigeria.

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DEDICATION

This research is dedicated to all Women Living with Breast Cancer (WLBC) and their Spouses who are facing relationship upheavals due to this disease, trusting God to bring healing and peace to your relationship.

This work is dedicated to my late father: Engr. (Rev) John Olusegun Oluwadiji, and mother: Rev. (Mrs.) Victoria Olawunmi Oluwadiji who gave me a platform to life and to live.

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ABSTRACT

Breast cancer (BC) is an abnormal growth from the breast tissue, and is a major cause of cancer-related death among women in Sub-Saharan Africa and Nigeria in particular. It affects women's wellbeing, feminity, maternal-role and sexuality, and accounts for disaffection between couples. Previous studies have focused mainly on biomedical aspect, etiology, prevention and management of BC. However, little attention has been given to the social aspect of BC, as it affects spousal relationship in Ibadan. This study, therefore, examined spouses' knowledge about BC, community members' perceived knowledge, how BC diagnosis and treatment affects dynamics in spousal relationship, sick-roles of Women Living with Breast Cancer (WLBC), and coping mechanisms for BC in the Ibadan Metropolis, Nigeria.

Triangular Theory of Love guided the study, while descriptive cross-sectional survey design was adopted. Thirty in-depth interviews and four case-studies were conducted on life experiences of WLBC (15), Spouses (15) and affected couples (4) at the BC Unit, University College Hospital (UCH), Ibadan, which has a high referral population-based cancer registry. Purposive sampling was used to select five urban Local Government Areas (LGAs) in Ibadan. Twenty-four wards were randomly selected out of 59 wards in the selected LGAs. Kish's (1965) formula was used to determine the sample size, and systematic sampling was used to proportionately administer semi-structured questionnaire on 660 community members comprising Ibadan North (167), Ibadan North-East (148), Ibadan North-West (75), Ibadan South-East (134) and Ibadan South-West (136)**.** Qualitative data were content analysed. Quantitative data were analysed using descriptive and inferential statistics at $p \leq 0.05$.

WLBC and Spouses were knowledgeable about BC, but they trivialised its signs and symptoms. This informed late clinical presentation and affected success rate of treatment. Diagnostic report of disease resulted in instability in spousal relationship. Treatment affected the quality of time couples spent on leisure; sexual activities decreased; there were changes in child rearing and communication patterns. Some WLBC could not continue with the treatment regimen due to financial constraints. Fear of death of WLBC negatively affected spousal relationship. Sick-roles displayed by WLBC included inability to work, staying in bed for long, inability to attend to family and social responsibilities, and seeking for medical help (alternative or orthodox). The BC thought avoidance, genuine love, faith in God, adherence to medical advice were adopted as coping strategies. Respondents' age was 35.53±11.24 years, and 65.6% had tertiary education. Community's perceived knowledge about BC risk was: any woman (69.8%), women with BC family history (51.8%) and uneducated women (38.8%).They also perceived BC as non-communicable (20.8%), inherited (30.9%) and enemy at work (11.7%). It could be treated through traditional medicine (32%), radiotherapy (38.2%) and chemotherapy (48.5%). Ninety percent of the women were willing to be screened.

Trivialisation of signs and symptoms, and utilisation of alternative therapies contributed to late clinical presentation. This determined the extent and success of treatment. Regular breast examination, early clinical diagnosis by couples are recommended to avert late stage of disease and instability in spousal relationship. Sensitisation is needed for stakeholders on social supports for spouses affected with breast cancer.

Keywords: Breast cancer treatment,Disease and spousal relationship, University College Hospital

Word count: 500

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ABBREVIATIONS

BC**:** Breast Cancer

WLBC: Woman Living with Breast Cancer

WHO: World Health Organization

LGA: Local Government Areas

IDI: In-depth Interview

ENRICH: Evaluation and Nurturing Relationship Issues, Communication and Happiness

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Breast cancer (BC) is a malignant (cancer) tumour that starts in the cells of the breast (European Society for Medical Oncology, 2018). The signs of breast cancer include a change in the shape of the breast, a lump in the breast, dimpling of the skin, or fluid discharge from the nipple, as well as a red scaly patch of skin (Mayer & Batur, 2010, Cancer Council Australia, 2016). For those in whom the disease has progressed, there may be pain in the bone or lymph nodes maybe swollen which may result in shortness of breath or yellowish skin (Nguyen, 2014,America Cancer Society,2017).

Breast cancer is the most common type of cancers among women (Rivera-Franco & Leon-Rodriguez, 2018), second most common cancer in the world and a major worldwide health challenge (Siegel,Kimberly,Miller & Jemal,2018; Rivera-Franco &Leon-Rodriguez,2018). It accounted for 246,660 out of 843,820 cancer incidence in women, causing the death of 40,450 in the USA in 2016 (Siegel,Miller & Jemal, 2016). The International Agency for Research on Cancer (IARC) and World Health Organization (WHO- GLOBOCAN, 2012) reported that about 98, 43 and 38 out of 100,000 women had breast cancer incidence in Western Europe, North Africa and West Africa, respectively.

In addition, Kantelhardt and Frie (2016) reported that breast cancer is a growing problem in low-resource settings (developing countries) and the incidence rates vary considerably between African countries. The study reported 38 new cases per 100 000 women per year in Kenya and 28 cases per 100 000 women per year in Uganda. The disease accounts for the highest prevalence rate compared to other forms of cancer in Nigeria (Awodele, Adeyomoye, Awodele, Fayankinnu &Dolapo. 2011). In south-western geopolitical zone of Nigeria, breast cancer is the foremost malignancy in women (Afolayan,2008), breast cancer age standardised incidence rate (ASR) is 52.0 per 100,000 women in Ibadan (Jedy-Agba, Curado, Ogunbiyi, Oga, Fabowale, Igbinoba, Osubor, Otu, Kumai, Koechlin, Osinubi, Dakum, Blattner & Adebamowo, 2012). These figures show that it is a major health challenge among the women folk.

Breast cancer, being situated on the part of the body which is perceived as strongly associated with women's femininity, maternal role, and sexuality (Emilee, Ussher & Perz, 2010; Sbitti, Kadiri, Essaidi, Fadoukhair, Kharmoun, Slimani, Ismaili, Ichou& Errihani,2011; Fonseca,Lencastre & Guerra,2014), would affect the woman, her partner and ultimately the spousal relationship. Many researchers suggest that problems that affect the breast are likely to affect the woman's sexuality (Elumelu,Oladeji,Adenipekun &Eriba, 2013).

For the purpose of this study, spousal relationship is a form of social interaction between a husband and his wife.Such a couple would exhibit very strong mutual influence on each other's behaviour over an extended period of time where partners' mental representations of their interactions are idiosyncratic to such relationships along sexuality, reproduction and economic responsibilities (Berscheid & Reis, 1998; Berscheid &Hatfield,2013). This suggests that spousal relationship is tantamount to close social interactions between two individuals (Federal Register, 2015) who are in a marital relationship. Therefore, the diagnosisof the disease elicits different responses from the partner.These could be sadness,worries,fright, and so on (Barros,Conde,Lemos,Kunz & Ferreira,2018) which would affect the existing spousal relationship.

The emergence of the health challenge on the woman affects the spouse who is supposed to be closer to the woman than any other person, because they share their lives together and things in common (Hagedoorn,Dagan,Puterman, Hoff, Meijerink,DeLongis &Sanderman, 2011; Hubbeling, Rosenberg, González-Robledo, Cohn, Villarreal-Garza, Partridge & Knau,2018). The illness of the woman also becomes the illness of her spouse.The spouse invariably bears more of the resultant burden of the disease

(Fletcher,Lewis & Haberman,2010;Cohen,Abdallamabjish& Zidan, 2011; Sajid & Shazia,2016).

Breast cancer is a chronic illness, which according to Charmaz (1991;2000) and Sarfati,Koczwara and Jackson (2016), reveals how progressively, deteriorating chronic illness can reshape a person's life and sense of illness. People do experience chronic illnesses in three ways.It could be as an interruption in life, an intrusion in life, or as an immersion in life. Breast cancer interrupts the existing lifestyle and existing spousal relationship. It is also an intrusion because the ill person loses some control over their life (Enache, 2012; Bagheri & Mazaheri,2015). The illness takes over the woman's time and being. She is therefore immersed as the illness dominates her life. Responsibilities and roles are surrendered and the woman is encumbered with dealing with the illness (Neris & Anjos,2014; Zimmerman,2015 and Almeida, Comassetto, Alves, Santos, Silva & Trezza,2015).

This condition forces her to assume a 'sick-role' and display illness behaviour. The perceived severity of the illness will determine the woman's response. The moment a woman with breast cancer accepts the symptoms and diagnosis as a sign of illness, she transits into 'sick role', a period in which she begins to relinquish some or all normal social roles. It is expected that her spouse should take up some or all of these responsibilities. Sick role, is a concept introduced by Talcottt Parson (1951). Though the 'sick role' has been criticised that it cannot be applied to chronic illnesses, such as breast cancer. However, it is expected that the rights of the sick person subsist. These are:

a) She should be temporarily exempted from her usual and normal roles
b) She is not responsible for her state of health (breast cancer).

It is pertinent to note that the Woman Living with Breast Cancer (WLBC) cannot be temporarily exempted from her usual and normal roles, as the ailment could take a full toll on her physical strength, and she would be unable to resume to her duties. However, she may still try to perform the two obligations of:

a) Trying to get better and not getting accustomed to the state of relief, wherein responsibilities were relinquished. The WLBC tries as much as possible to brace up and arise to her responsibilities; and

b) Seeking medical care and adhering to the instructions and prescriptions.

The term sick-role refers to the roles that the WLBC assumes as a sick person,who also needs care as she spends more time on the bed because of her inability to move around. She seeks as much medical attention as the family's financial strength can provide. Treatment is introduced in series of interventions, including but not limited to psychosocial support, radiotherapy, chemotherapy, hormone therapy and surgery. These are aimed at curing the disease or prolonging the patient's life considerably (for several years). The treatment would also improve the patient's quality of life, (WHO, 2018). Some adverse effects of the treatment may include loss of hair, fatigue, nausea, loss of sexual interest and libido, and even loss of the breast (Okoiye &Annsiem, 2015).

As a result of the above, breast cancer becomes a major health concern, because of the nature of its treatment which is quite invasive, stressful and associated with numerous side-effects, that are detrimental to spousal relationship, quality of life of women, their spouse and their other social contacts (Dow & Lafferty, 2000;Fletcher, Lewis, & Haberman,2010; Hubbeling*et al.*,2018). The impacts of diagnosis and treatment of breast cancer on the woman and her spouse thus have implications on the psychology, the physiology and the social wellbeing of the relationship, thus making this present study pertinent.

This study therefore sought to examine and understand the experiences of distorted life situation of women living with breast cancer (WLBC) as well as their problems, needs and challenges. It also considered the social burden that the health challenge brought on the spouse and their relationship in its entirety. In a related manner, the study corroborated earlier findings with the perceived knowledge of individuals from selected communities about breast cancer and its consequence on the spousal relationship of concerned individuals. Also, the importance of the community members' comments on spousal relationships, and their personal opinions about issues was documented.

1.2 Statement of the Problem

Being diagnosed with Breast Cancer (BC) carries with it different reactions. It may initially sound like a nightmare to the woman living with breast cancer (WLBC), and sometimes it is like being handed a death certificate (Okoiye & Anusiem, 2015). The mind has a lot to process: fear, anxiety, hopelessness and sadness. There are consequences as regards the acceptance of this reality by family especially the spouse of the woman (Zahlis & Lewis, 2011). There is always an emotional breakdown, and relationships are often threatened, or sometimes disrupted, as a new personality is considered to emerge in the WLBC, and a new form of relationship is created or the initial one is maintained with the WLBC (Taylor-Brown, Kilpatrick, Maunsell & Dorval, 2000) The woman requires more emotional support, which may neither be sufficient nor readily available.

Management of breast cancer is a journey, with the diagnosis as the first phase. It carries with experiences of a whole range of emotions toward recovery. In fact, survivorship has been used to describe the process of recuperation. The journey starts from the day the diagnosis is made, leading to concentration of personal and family efforts on the goal of survival, whether the woman will ultimately be cured or end up living with cancer. The WLBC requires more emotional support during this period from close relations, and more expression of love especially from the spouse. Coping with possibility of breakdown in relationships may be emotionally traumatising for the WLBC who struggles to assure the people of her ability to live and function normally because of the fear of stigmatization and subjugation after diagnosis. Nonetheless, some evidences have suggested that optimism can be an important key to good health outcomes for WLBC (Fonseca, Lencaste & Guerra, 2014).

Disclosing cancer status to the spouse, who is expected to show love and some level of emotional support, may be a traumatic experience, as the spouse is expected to provide all the support needed to get through the cancer journey. The spouse can provide emotional support by showing love, and helping with chores when the WLBC is incapacitated by the side-effects of the treatment regimes. It is pertinent to note that, a woman who is diagnosed with breast cancer is perceived as unhealthy and immediately assumes a ‘sick role’, which makes her incapable of performing her previous roles within the society and in the relationship (spousal). The challenge of adopting an acceptable new role, in the home, is undoubtedly an additional stress on the woman, and the man who faces the reality of living with a woman with perceived incapacitation due to limits placed on her by her new health status. This may determine the subsequent pattern and strength of spousal relationship involving a woman living with breast cancer and her spouse.

On the other hand, the spouse's life, activities and decisions could be informed by their level of knowledge,interpersonal context, significant others around them and the community that they reside in. These individuals' comment is often based on their level of awareness and knowledge about breast cancer, which would invariably affect the dynamics of relationships between the spouses affected by breast cancer.

Furthermore, it is pertinent to note that much meaning is ascribed to a woman's breast in terms of it being a symbol of motherhood and erotic play. More importantly, it is a social construct that attractvalue relative to its size and fullness for a woman especially in Yoruba culture. Consequently, a problem with this organ might affect the self image of the woman (Przezdziecki, Sherman, Baillie, Taylor,Foley,& Stalgis-Bilinski,2013;Bagheri & Mazaheri,2015). Considering the role that the breast plays during sexual intimacy, the inability of the spouse (male) to fondle the organ might reduce the frequency and the satisfaction experience during such an act. This might lead to domestic crisis in the home, and thus threaten spousal relationship. It has also been reported that the degree of a patient's treatment has the effects of sexual hiccups.

The sexuality of those who had mastectomy and lumpectomy followed by chemotherapeutic regimen, is found to have the tendency to be negatively affected (Elumelu *et al*. 2013). They often experienced difficulty in becoming sexually aroused, reaching a 'climax' and relaxing to enjoy sexual relationships, among others. A result of the post treatment effect, which might lead to the severance, or palliative management of the breast, the perception of the partner about the woman's ability to provide satisfactory sexual relationship might be affected. Thus, this might have either positive or negative consequence on spousal relationship, since the breast is an integral part of spousal relationship.

Despite the social burdens resulting from the WLBC, there is little or no satisfactory empirical analysis of the social burdens that could arise from the infected person to the spouse and the significant others. Indeed, sociological explanations of the consequences of the health condition on spousal relationship is lacking among couples whose spouses are affected. This study, therefore, examined the relationship between Breast Cancer and spousal relationship, in relation to the evolving social burdens, and the provision of love and emotional support for the WLBC by her spouse, as part of the experience of a woman living with breast cancer in the Ibadan Metropolis.

1.3 Research Questions

The study addressed the following research questions:

1. What is the knowledge of spouses and community members about breast cancer?
2. How does breast cancer affects spousal relationship?
3. What are the dynamics in the relationship of spouses affected by breast cancer?
4. What are the coping mechanisms adopted by women living with breast cancer and their spouses?

1.4 Objectives of the Study

The general objective of this study was to investigate how breast cancer affects spousal relationship.

Specific Objectives:

The specific objectives are to:

1. Elicitthe knowledge of spouses about breast cancer.
2. Document the perceived knowledge of community membersabout breast cancer.
3. Describe how breast cancer diagnosis and treatment affects the various characteristics of a typical spousal relationship.
4. Examine the dynamics in spousal relationships at the different phases of the disease.
5. Identify the sick-role of women living with breast cancer and how it affects spousal relationship.
6. Describe spouses' and community members' perception about the survival of a relationship as a result of breast cancer.
7. Highlight coping mechanisms for women living with breast cancer and their spouses.

1.5 Justification of the Study

The challenge of breast cancer on a woman is seen as an external force, which could affect in a negative or positive manner, the dynamics of the spousal relationship and involvement. Therefore, it is believed that findings from this study had provided sociological explanations on the consequence of a chronic non-communicable disease (breast cancer) on spousal relationship which other studies have not been able to explore, while adding to the knowledge base of breast cancer.

Considering the reactions to diagnosis report, cost of treatment and fear of the unknown,this study on its consequence on spousal relationship has helped to focus attention on time-line counselling, therapyand coping mechanisms women living with breast cancer and their spouses.

Consequent on the fact that the diagnosis and its treatments has multiplier effects on the spouse and other relationships that the woman has, this research work has endeavoured to establish principles that would be relevant to policy formulation in the management of breast cancer diagnosis and treatments as it affects spousal matters (relationship). The cultural undertone of the health condition would help in the direction of policy formulation and implementation not only in Nigeria but also the world at large.

The understanding of the causes and treatment regimen of any disease is fundamental to its management. This study had uncovered the behavioural aspects of the diseases, which would further guide care givers and family counsellors in making recommendations and time-line intervention for spouses facing the challenges of breast cancer.

This study has also contributed to the knowledge and perception of community members about breast cancer. The findings from this study would play significant roles in shaping the attitudes of community members towards post-diagnosis and treatment of the disease while enhancing spousal relationships experiences. The results from this study has provided detailed understanding of the coping mechanisms of the disease among couples whose female spouse is affected with breast cancer, wherein adjustment to the health burden would strengthen the relationship between both spouses.

1.6 Scope of the Study

This study examined the role of breast cancer on spousal relationship in the Ibadan Metropolis, Oyo State, Nigeria. The choice of Ibadan was informed by the fact that it houses the University College Hospital (UCH), which has the first and best equipped population based cancer registry in the South-Western Nigeria. Therefore, it enjoys high rate of referrals from all over the country, while some of the patients stay back in the Ibadan metropolis in order to have easy access to the health care. For the purpose of this study, only women living with breast cancer, their spouses and community members that reside in the Ibadan metropolis constituted the participants.

1.7 Operational Definition of Terms

For the purpose of this study, the following key concepts were defined within the context of the research.

i. **Breast cancer in a woman:** This is the unusual or abnormal growth of healthy cells in the breast of a woman, forming a mass or sheet of cells called a tumor. The tumor can either be benign or cancerous

ii. **Sick role:** This is a situation wherein a woman that is medically diagnosed, is excused from her normal social roles and responsibilities in the relationship, and the spouse assumes and adjusts (if possible) to the new roles and responsibilities.

iii. **Partner:**This is either the man or woman in a spousal relationship

iv. **Spouse**: A married man and a woman who are living together, who share their lives together and things in common.

v. **Spousal relationship:** refers to the social interactions and interpretive process that exists between spouses (man and woman) that live together and share things in common.

vi. **Elements of spousal relationship:** These are traits and realities that are observed and practised in a spousal relationship such as: Personality(Understanding of each other), Roles and responsibilities, Conflict resolutions, Finances, Leisure activities, Sexual relationship, Child bearing and rearing, Religious orientation

vii. **Stability in spousal relationship:** This is a perceived situation wherein the relationship is steady and there are noexperienced disruption or changes.

viii. **Instability in spousal relationship:** This is a perceived situation wherein the relationship experiences disruptions and negative changes.

ix. **Satisfaction in Spousal relationship:** A feeling of pleasure and happiness in the relationship

x. **Dissatisfaction in spousal relationship:** A feeling of displeasure and unhappiness in the relationship.

xi. **Community**: group of people or individual who reside in the same locality or area, who share geographical and cultural things in common. It also means a group of people that live in the same neighbourhood

xii. **Survivor**: is an individual or woman who has undergone all the prescribed treatment regimens and is certified medically fit, or no traceable symptom of breast cancer is observed.

xiii. **Patient**: Is a woman medically diagnosed and is being treated for breast cancer

xiv. **Erotic :** Sexual excitement derived from playing with the woman's sex organ most especially the breast.

xv. **Love:** A strong romantic feeling and commitment that is felt and experienced between a man and a woman in a marital relationship

xvi. **The Ibadan Metropolis:** This is the chief, capital and most populous city in Oyo State, Nigeria. It has five (5) urban and six (6) semi-urban local government areas.

xvii. **Sexual Activities:** These are activities associated with sexual intercourse between a man and a woman, by sensitising different erotic organs of the body in order to derive fun and pleasure.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Literature Review

A review of the literature related to breast cancer and spousal relationship is central to the subject of this study. Thus, this chapter presents a review of relevant scholarly studies on breast cancer and spousal relationship, as well as a critical review of a theoretical framework for the purpose of providing theoretical explanation of the subject under study with a view of linking breast cancer with spousal relationship. Also included is the review of relevant literature that addresses the key areas in line with the specific objectives of the study.

2.1.1 Conceptualizing Spousal Relationship

It is essential to define the term "spouse" before an attempt is made to conceptualize spousal relationship. According to the Law Dictionary Online (2016), a spouse is a term used to describe a person's husband or wife. The terms 'husband' and 'wife' mean two individuals lawfully married to each other, (Federal Register, 2016). It can also be referred to as a life partner in a marriage. In other words, partners involved in spousal relationship are usually termed as husband and wife. Within the context of Nigeria Sociology of the Family, the husband is usually a male spouse, while the wife is usually termed to as the female spouse (Okunola & Ojo, 2012). On the other hand, defining the term 'relationship' may seem too ambiguous and contextual. This is because the term "relationship" in social sciences generally is best described as the foundation of human life due to the fact that most human behaviour, including the behaviour of individuals in a marital relationshiptakes place within the context of interpersonal relationships with each other or in a more macro-level with one another (Umberson& Montez,2010).

However, it is still believed that human's general relationship context strongly influences one's spouse's behaviour, as well as the development throughout their life span (Reis *et al*, 2000). Specifically, Berscheid and Reis (1998) describe relationship as a form of social interaction that exists between/among partners who exhibit strong and impressive mutual influence on each other's behavior for a long period of time, and where partners' mental representations of such social interaction are idiosyncratic to the relationship with various dimensions. Putting the two distinctive words together – "spouse" and "relationship", spousal (marital) relationship may be defined as the interaction between husband and wife who exhibit very strong mutual and impressive influence on each other's behavior over an extended or long period of time where partners' mental representations of their interaction are idiosyncratic to such relationship along sexuality, reproduction and economic responsibilities. This suggests that spousal relationship is tantamount to close social interaction between two individuals who are in marital relationship.

According to Olson and Fowers (1993), there are emotional behaviours that influence spousal relationship as well as spousal relationships influencing emotional behaviours of partners. This is largely due to the intrinsic link between emotions and relationships which involve two people who are experiencing, either stable interpersonal relationship or transient relationship. Indeed, emotions are the basis of social interaction, as well as the products of social interaction with respect to their origins and currency. Obviously, the emotion-relationship nexus is a strong determinant of spousal relationship taking into cognizance the intervening variables such as the religion of the spouses, educational level of spouses, and occupational status of the spouses among others. These variables however, inform the typologies of spousal relationship as they shall be discussed subsequently.

2.1.2 Typologies of Spousal Relationship

In an attempt to identify the various typologies of spousal relationship, Olson and Fowers' (1993) typologies of couples' relationship will be discussed. Olson and Fowers (1993), after the completion of their study on marriage type (between January 1983 and June 1985) with a sample of 6, 267 randomly drawn in a national survey (which included Non-

Hispanic Caucasians, Blacks, Hispanic,Asian American and Others), using marital inventory ENRICH(evaluation and nurturing relationship issues, communication and happiness) Marital satisfaction scale, identified five distinct couples' relationship.

1) Vitalized spousal relationship;
2) Harmonious spousal relationship;
3) Traditional spousal relationship;
4) Devitalized spousal relationship;
5) Conflicted spousal relationship.

According to Olson, Founier and Druckman (1987), and Olson and Fowers (1993), the marital inventory ENRICH that was used to derive these typologies of spousal relationship contained 125 items in 14 scales. With regard to this, the marital inventory was designed to identify relationship strengths and work areas in 11 relationship domains, namely; personality issues, marital satisfaction, financial management, communication, leisure activities, conflict resolution, equalitarian roles, sexual relationship, children and parenting, family and friends, and religious orientation. According to Olson and Fowers(1993), although ENRICH marital inventory has three other scales that assessed idealistic distortion as well as the cohesion and adaptability of couples, but these scales were excluded in the study. Also excluded in the study was marital satisfaction scale.

Describing the scores that were used throughout the analysis of their study, Olson and Fowers (1993) referred them to as Positive Couple Agreement (PCA) scores,because they measured couple's agreement to elucidate couples' relationship in a positive term in respect to each of the scales. However, the actual PCA score of the measure was the proportion of items on a given scale which the couples (respondents) agreed to characterize their relationship in a positive term. Hence, the PCA scores range from 0% to 100%,depending on the number of items in the scale on which both partners described their relationship in positive terms (Olson and Fower, 1993). Specifically, each of the typologies of spousal (couple) relationship as identified by Olson and Fower will be discussed as follow:

Vitalized spousal relationship: This is a typology of spousal relationship that is characterized by highest levels of marital satisfaction. This also means that couples in this typology of spousal relationship are comfortable with their spouse's behaviors and personality, ability to communicate as well as ability to resolve conflict successfully. Describing this typology of spousal relationship, Olson and Fower's (1993) study reveals that partners in marital relationship tended to be older, "married longer, more educated, and having higher incomes and job status. Indeed, husbands in this type of marital relationship tend to have two jobs less frequently and to be working part-time more often. All these indicators are typically attributed to higher marital satisfaction and less stress in the relationship".

Harmonious spousal relationship: In this typology of spousal relationship, couples are seen to have moderately high scores on the scales of assessing spousal interaction when compared to other typologies of spousal relationship. Couples in this group also have considerably lower level of consensus on issues involving parenting. As Olson and Fower (1993) argue, couples in this typology tend to be characteristically older and married for a shorter period of time, as well as having the fewest children when compared to other spousal relationships. Additionally, couples in this typology also tend to be more educated, and have higher status jobs. More often than not, men in this spousal relationship "have lower incomes more frequently than expected whereas women earned more money with greater than expected frequencies" (p. 15). This is largely due to the wives in this typology mostly found in full-time employment more than other types of spousal relationship. As such, women are less often unemployed. Partners in this typology hardly consider divorce as option to marital conflict because they mostly consider themselves satisfied in their marital interaction. Here couples always live a disciplined life, spend time with their children, triangulate with children, which as well as taking decisions about the number of children they should have.

Traditional spousal relationship: In the traditional spousal relationship, couples are characterized by the scores of slightly above average on the scales assessing marital satisfaction with couples' interaction. In this typology of spousal relationship, couples tend to be the most satisfied in how they handle their children as well as their parenting duties. Similar to this however, couples also tend to have relatively high scores on their agreement about the place of worship (religion) in their marriages largely due to the fact that they place religious belief as an important aspect of marital relationship.

Characteristically, couples in this typology tend to be younger, married longer and have more children than the other typologies of spousal relationship. Couples in this type of spousal relationship also tend to have more education and higher incomes. Most often than not, wives in this typology are less frequently employed on full-time basis. Following the fact that they married younger, they also have more number of children, and their wives tend to work less in full-time employment than other types of spousal relationship. Additionally, couples in this marital relationship do not consider divorce in their marriages (Olson and Fowers, 1993).

Devitalized spousal relationship: In this typology of spousal relationship, couples in this category were reported to have the lowest scores on the overall scales of ENRICH inventory. According to Olson and Fowers, the couples in this typology were seemingly pervasively to be dissatisfied with their marital interactions. As such, the group remained the largest group. Socio-demographically, individuals in this typology of spousal relationship tend to be younger, characterized by less educational qualification, lower occupational status with incomes, and more frequently, husbands in this typology had two or more jobs. Similar to this, couples in this category are usually married for short periods of time with short acquaintance prior to marriage, and have a higher incidence of religious and racial heterogamy. Furthermore, couples in this typology are characteristically associated with less marital satisfaction to the extent that Olson and Fowers (1993) study's validity confirmed that both partners in this marital relationship most often consider divorce as an alternative to marriage, hence they always feel dissatisfied in their marital relationship with each other. And again, it was revealed that couples in this typology are twice as likely to be separated as in the conflicted spousal relationship group, and ten 10 times more likely to be separated than other typologies of spousal relationship.

Conflicted spousal relationship: In this typology of spousal relationship, Olson and Fowers' (1993) revealed that "the group had moderately low scores in overall with relatively greater consensus on having egalitarian roles, and making religion an important part of their relationship". With the lowest scores on spousal (marital) relationship scales, it is thus a reflection of difficulties in their effective communication and the ability to resolve conflict. The couples in this particular group however, were demographically similar to those in the devitalized type of spousal relationship with lower educational level, lower income and job status, and more heterogamous in relation to religious practice. Couples in this typology however, also tend to be younger as well as found among those who married more recently. It was also reported that in this marital relationship, partners most often consider separation and divorce, and feel dissatisfied with their marriages.

2.1.3 Conceptualizing breast cancer

According to American Cancer Society (2017), breast cancer is the abnormal growth of cells or tumor that originates from the breast tissue or the ducts that connects the lobules to the nipple. In terms of its signs, the signs may include either a change in the shape of the breast or a lump in the breast, dimpling of the skin, or fluid coming out from the nipple, as well as a red scaly patch of skin. Most often than not, for those with a distant spread of the disease, there may be pain in the bone or swollen lymph nodes which may result to shortness of breath, or yellowish of skin (Saunder and Jassal, 2009;America Cancer Society,2017). From a research statistics conducted by Siegel,Kimberly, Miller and Jemal (2018) breast cancer seems to be common within the women folks compared to their male counterparts.

Types of breast cancers

According to America Cancer Society (2015),Akram,Iqbal,Asmat and Khan(2017)and American Cancer Society (2019) there are various types of breast cancer, though some of them are not common, but sometimes their tumor can be a mixture of these types. The following are the various types of breast cancers;

(i) Ductal Carcinoma In Situ (DCIS)

This is a type of breast cancer that results from abnormal cells starting from the cells lining the ducts without growing through the walls of the ducts into the tissue of the breast. It is also called a non-invasive breast cancer

(ii) Invasive (or Infiltrating) Ductal Carcinoma (IDC)

This type of breast cancer is the most common because it starts in the cells lining a duct, and then the abnormal cells break through the wall of the duct and grow into the tissue of the breast. This can spread to nearby lymph nodes or other parts of the body.

(iii) Invasive (infiltrating) Lobular Carcinoma (ILC)

This type of breast cancer usually starts in the cells lining the milk glands called the lobules. The cells gradually grow through the wall of the lobules and then spreads to nearby lymph nodes or other parts of the body.

(iv) Inflammatory Breast Cancer

Although Inflammatory Breast Cancer is a rare type of invasive breast cancer, because it has no single lump or tumor; instead of this, it makes the skin of the breast look red and feels warm. However, the skin may look thick and pitted something like an orange peel. The breast may get bigger, tender, hard, or itchy. In its early stages, inflammatory breast cancer is often mistaken for infection.

(v) Paget's Disease of the Breast

The first symptom of this breast cancer is changes in the nipple. This type is not the same as Paget's disease of the bone. The sign that is most common to this type of breast cancer is a red, scaly rash, involving the nipple, which may later spread to the areola (the darker skin around the nipple).

2.1.4 The Epidemiology of Breast Cancer

A review of literature on the epidemiology of breast cancer is relevant to this study. Siegel,Miller and Jemal(2019);Awodele, Adeyomoye, Awodele, Fayankinnu and Dolapo (2011) review the distribution of cancer globally and stated that cancer is one of the most dreaded non-communicable diseases that have become significant contributor to global burden of diseases. Russel,Sturua,Li, Morgan, Topuridze,Blanton, Hagan and Salyer(2018) adding to this view averred that it is second leading cause of death as well as its burden growing considerably worldwide. Siegel *et al*. (2019) commenting on this phenomenon opine that there are different types of cancer with varied symptoms. From the global view of people affected with cancer, Lin, Yan, Liu, Yuan, Li and Ni(2019) noted that approximately about 9 million people had died of cancer as at year 2017

Many scholars have subscribed to the same view and submitted that cancer incidence is occurring at a faster rate in both developing and developed countries. As Bray,Ferlay, Soerjomataram, Siegel, Torrey and Jemal(2018) pointed out the preponderance of westernized and industrialized dietary intake, as well as other socio-behavioural attitudes in most less-developed countries, has been found responsible to the increasing burden of cancer which has been estimated to increase in its epidemic proportions in the 21st century. Thus, deaths from cancer globally have been projected to be on the increase with an estimated population of 9 million and 11.4 million people expected to die from cancer in 2015 and 2030 respectively (WHO, 2007b).

Among other cancerous epidemic, literature has established that women are most affected with breast cancer when compared to men (Forman,Ferlay, Briton and Cook,2012; Yalaza, Inan and Bozer,2016).An instance is the Tehran metropolis where breast cancer was reported to be the most common disease among women (Mohaghehi, Mosavi-Jarrahi, Malekzadal and Parkin, 2009). The cancer of the breast in African continent however, is usually characterized by regions as the incidence varies considerably. In North African for example (such as Algeria and Egypt), the incidence rate of breast cancer was put at 27% compared with about 15% of its incidence in sub-Saharan Africa (Parkin et al., 2003 cited in Mohaghehi, Mosavi-Jarrahi, Malekzadal and Parkin, 2009).

In Nigeria North-Western geopolitical zone, breast cancer is the second to cancer of the cervix while at the University College Hospital (UCH), Ibadan, a South-Western geopolitical zone of Nigeria; breast cancer is the foremost malignancy in women (Awofeso,Roberts, Salako, Balogun & Okediji,2018). In the North-Central geopolitical zone of Nigeria, cancer of the breast constitutes about 22.41% of new cases registered in 5 years and accounted for 35.41% of all cancers in women (Afolayan, Olaoye, Adesina and Saidu, 2012). In the low income or developing countries, cancer of the breast is characterized by late clinical management and in advance stage of the disease, when only chemotherapy and palliative care could be offered and this contributes significantly to high mortality rate (Tfayli, Temraz, Mrad and Shamseddine,2010; Shulman,Willett, Sievers and Knaul,2010).

According to Afolayan et al. (2012), it is quite unfortunate to note that there is no accurate data and literature review on the trends of cancer of the breast in Nigeria due to few existing cancer registries. Most of them are either hospital-based or pathology based instead of the preferred population-based cancer registries. Despite this however, Jedy-Agba et al(2012),while using Abuja and Ibadan Cancer Registryreported the age standardized rate in Nigeriato be 54.3 per 100,000. Apparently, its burden in Nigeria is highly noticeable. Again, according to the World Health Organization [WHO] statistics, about 268,600 new cases of breast cancer were projected for the year 2019(Siegel, et al 2019).

Additionally, according to Morounke, Ayorinde, Benedict,Adedayo,Adewale, Oluwadamilare,Sokunle and Benjamin,2017 that the Globocan(2012)reported five year prevalent cases of the adult population of cancer in Nigerian males and females to be 139.8 /100,000 and 348.6/100,000 respectively. Thus, with a population of over 170 million people; chronic non-communicable diseases such as cancer are emerging as critical health care priority for the future. Indeed, the ensuing attendant growing in life expectancy is expected to lead to an increase in the incidence of the various types of cancers due to a higher proportion of the population, who are reaching the complex diseases bearing age.

Awodele *et al*. (2011) examined the distribution of cancer in the south-western Nigeria, stated that there is a total number of 5, 094 patients with cancer that were registered between 2005-2009 in Lagos (60%) and Ibadan (40%) cancer patients' registry centres. In terms of its prevalence based on gender, females and males accounted for 64.5% and 35.5% of cancer patients respectively. According to Awodele and colleagues, 63% (3, 211) of the cancer patients were married. In 2005, there were 857 (16.8%) cancer patients; in 2006, there were 871 (17.1%) cancer patients; in 2007, there were 788 (15.5%) in 2007; in 2008, there were 1, 046 (20.5%) cancer patients; and in 2009, there were 1, 532 (30.1%) cancer patients. Most importantly and fundamental to this study is the incidence of breast cancer having the highest percentage of 20.2% of all the cancer cases, followed by 7.9% of cervical cancer; 4.4% of fibroid; 4.4% of liver; 4.3% of stomach; 3.9% of brain; 3.8% of pancreas; 3.3% prostate; 3.0% of lung, while cancer of kidney was recorded as the lowest percentage 0.7%.

In specific terms, the prevalence of breast cancer which was documented by Awodele *et al*. (2012) showed that there were 29.3% and 3.5% registered female and male cancer patients out of the total 1, 029 cancer patients among others types of cancer. In their analysis of the prevalence of all types of cancer apart from the breast cancer found to be more prevalent in female than the male, liver cancer and bone cancer also found to be more predominant in female cancer patients than male, while lung cancer, stomach cancer, and kidney cancer were found to be more predominant in male cancer patients than female. In other words, there were significant differences in the level of occurrence between cancers of the breast, prostate, cervix, ovary, liver and other types of cancers. As Awodele *et al*. (2011) noted, of all the cancer patients registered in the sample hospitals, such as cervical, breast, abdominal, liver, lung, ovary, prostate, and stomach cancer, the prevalence of these types of cancers were predominantly found among married patients compared to the single cancer patients. This suggests that cancers in whatever types of its occurrence are records more cases among married patients than the singles. This also means that it may impact significantly on the marital relationships.

In relative terms however, studies have also established significant differences between cancers of the breast, prostate, cervix, ovary, fibroid among others. Indeed, most of the types of cancer that were recorded in Lagos and Ibadan registry centres, there were 90 abdominal cancer patients, 117 brain cancer patients, 814 breast cancer patients, 237 cervical cancer patients, 81 ovary cancer patients and 100 prostate cancer patients. Out of these, breast cancer has the highest number of patients (814). This implies that there are significant differences between cancers of the breast, fibroid, cervix, ovary among others and all other types of cancers (Awodele *et al*., 2011). According to the World Health Organization Reports(2019), after cardiovascular diseases, cancer is the second commonest cause of mortality. Though, data about the prevalence of cancer especially breast cancer in Nigeria is similitude to that of other Africa countries which is relatively scarce as only 7.2% of the population is covered by cancer registries. Socio-cultural and environmental factors exposure such as exposure to ultraviolet rays, pollutants of air, water and soil, active and passive tobacco smoking, use of non-smoking tobacco, alcohol intake, and dietary factors contribute to the growing rate of different types of cancers

2.1.5 The Risk Factors for Breast Cancer

People's knowledge about the causes of breast cancer varies across board. Studies show that breast cancer has remained the most commonly diagnosed invasive cancers worldwide, and has accounted for high incidence of female mortality. In the Western world for example, it was projected that 1 in 9 women would have breast cancer before age 85 (American Cancer Society, 2017). As such, peoples' knowledge about the causes of breast cancer are associated with a number of risk factors such as increasing age, mammographic density, reproductive factors, genetic factors and family history about the cases of breast cancer. Other risk factors include dietary fat intake, as well as solvent and pesticide exposure have been implicated as impending risk factors though the evidence to establish this fact is yet to be concluded (Khodarahmi and Azadbakht,2014).

Again, as Khodarahmi and Azadbakht (2014) noted although majority of people are aware of the incidence of breast cancer in the population based on the information about the risk factors, but the true causes still remain unknown. Despite the fact that the causes of the health condition are still unknown, studies have identified a number of factors that women with cancer of the breast attribute the health condition, and these include knocks, bruises or injury to the breast; stress and other psychosocial factors, chemicals, proximity to electronic equipment or overhead power lines; food additives; bacterial or viral infection;religious causes, as well as bad luck (Thomson,Heyworth,Girschik,Selvin, saunders and Fritschi,2014). Though limited evidence to support these attributions seem to face out, but women who do not have breast cancer have frequently identified similar risk factors when asked about their beliefs and knowledge about the etiology of cancer of the breast (Akram,Igbal,Daniyal and Khan, 2017).

However, conceptualizing the concept of risk factors in itself which also inform us about the knowledge of the causes of breast cancer in a population, the American Cancer Society (2019) defined risk factors as something that affects the chances of getting disease such as cancer. While reiterating that though the exact causes of breast cancer are unknown, but researches have shown that there are certain risk factors that are linked and attributed to the etiology of the disease. As such, various types of cancer particularly that of breast cancers have its own peculiar risk factors. Studies have shown that some risk factors in breast cancer include smoking, drinking, and diet. These of course are linked to individual habit or lifestyle (America Cancer Society, 2019).

In addition to this, scholars have largely agreed that there are a number of factors that can influence a woman's chances of getting breast cancer which include age, weight, the number of children she has and the possession of certain so-called ‘breast cancer genes’ (Gupta,Shridhar and Dhilon,2015). These factors are known to be ‘established risk factors’. Conversely, as Momenimovahed and Salehiniya(2019) noted, the ‘established risk factors’ put together can only explain about half of the breast cancer cases and for the remainder, doctors and scientists are still uncertain of the causes. In addition to some of the risk factors, the environment has been suggested to be a risk factor for breast cancer (America Cancer Society, 2019).

Although there have been cases of breast cancers issues related to specific inherited genes over time; but the fact remains that it is low. This is essentially evident that 1 in every 10-20 cases is due to inherited genes, that is to say breast cancer genes (Mehrgou and Akouchekian, 2016). However, Hiatt and Broody(2018) establishing this fact noted that an evidence from studies on twins has suggested the environment rather than the genes having more influence on the chances of developing breast cancer. In other words, to improve preventive measures for the disease a need to identify the factors that predispose people to breast cancer in the environment should be necessitated. As Hiatt and Broody further pointed out, one of the identified environmental factors that may be crucial in breast cancer is the exposure to certain chemicals. This is because new evidences are emerging from studies to support the hypothesis that exposure to environmental pollution in the environment such as the contamination of food, water, chemicals in consumer products in our various homes, schools, offices and stores may be a risk factor for breast cancer.

On the other hand, agreeing upon the fact that there are ‘established risk factors’ that may increase a woman’s chances of getting breast cancer, having one or more risk factors does not actually mean that a woman will develop breast cancer. As such, no single risk factor can adequately explain a particular case of breast cancer due to the complexity of the diseases with usually different factors contributing to it etiology. Indeed, there are some factors that women may have control over (e.g. the consumption of alcohol, exercise, as well as weight gain after menopause) while there are some that are not within the purview of her control such as age, age of onset of menstruation or menopause (Kamińska,Ciszewski,Łopacka-Szatan, Miotła, Starosławska and Menopauzalny(2015),Bjelland, Hofvind,Byberg and Eskild(2018)

As outlined below, the America Cancer Society (2019) itemized the established risk factors as follows:

- Genetic predisposition and family history;
- Natural oestrogen;
- Oestrogen in pharmaceutical products – the Oral Contraceptive “The Pill” and HRT (Hormone Replacement Therapy);
- Weight gain and lack of exercise (anthropometric factor);
- Alcohol consumption;
- Other risk factors.

a. Genetic Predisposition and Family History

A family with the history of breast cancer is major risk factor for breast cancer (Barrio and Codylll,2018). Some studies have revealed that there are a small percentage of women who have faulty (genetic mutations) versions of these genes called BRCA1 and BRCA2[1] which is rare, but having these genes may predispose women to be susceptible to the development of breast cancer (Wendt and Margolin, 2019). Conversely, in Genetic Home Reference (2019) maintained though there are variations in certain genes that can increase a woman’s breast cancer risk, yet even though a woman has one or more of these kinds of genes, it does not yet mean she will develop the breast cancer. This is evident as with many genes, that lifestyle and environmental factorscan influence whether these genes would find expression (Rudolph,Chang-Claude and Schmidt,2016)

b. Natural Oestrogen

Natural oestrogen is another most ‘established risk factors’ for breast cancer due to a woman’s exposure to oestrogen in her lifetime (Kamińska,Ciszewski,Łopacka-Szatan, Miotła, Starosławska and Menopauzalny(2015). It is pertinent that oestrogen is produced in the ovaries of a woman, but also stimulates the development of breast cancer in a woman. This means as oestrogen is biologically necessary for the development of breast,

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[1] BRCA1and BRCA2 means human genes that produce tumors suppressor proteins. They help to produce proteins that facilitate the repair of damaged DNA. They play fundamental role in ensuring the stability of the cell’s genetic material. As such, when either of these genes is mutated or altered, such that its protein product either is not made or does not function correctly, DNA damage may not be repaired properly. As a result, cells are more likely to develop additional genetic alterations that can lead to cancer. Thus, specific inherited mutations in BRCa1 and BRCA2 increase the risk of female breast or ovarian cancers (Retrieved 04/01/2020 from http://www.cancer.gov/about-cancer/causes-prevention/genetics/brca-fact-sheet).

it equally necessary that it circulates round the body of a woman. As such, the more the oestrogen circulates round the body of a woman the higher the risk for the development of breast cancer. Take for instance; it is a well-known fact that the greater the number of menstrual cycles a woman undergoes in her lifetime, the greater her likelihood for breast cancer. In a simple term, if a woman starts menstruating earlier than average and undergoes menopause later, it is obvious that her body will be exposed to more natural oestrogen usually released from the ovaries during menstrual cycle, this predisposes her more to the development of breast cancer. Therefore, for a woman who starts her menstruation earlier than average, the risk is increased by 5% per year; while for the woman who has a late menopause, the risk is increased by 3% per year

In a similar vein, it is also evident that having children by a woman in her lifetime reduces her exposure to her own oestrogen, consequently reduces her risk of breast cancer (Malvis, Bagadi and Dubey, 2017). This is because at each stage of pregnancy in a woman, there is likely tendency to have a decrease in breast cancer risk by 7% (Collaborative Group on Hormonal Factors in Breast Cancer, 2002b); and for the duration of the pregnancy, the ovaries cease to produce oestrogen. It is therefore thought that this accounted for the reasons why the incidence of the disease is increasing in the western societies, due to the fact that women in the western societies are now having fewer children later in life, or have no children at all. Indeed, studies have shown that breastfeeding reduces the risk of breast cancer,and that the longer a woman breastfeeds, the greater the reduction in risk for breast cancer with about 4.3% decrease in cancer for every 12 months of breast feeding (Collaborative Group on Hormonal Factors in Breast Cancer, 2002b; Schack-Nielsen, Larnkjaer, & Michaelsen, 2005). As the Health and Environment Alliance(2008) andAmerica Cancer Society (2019) observed, though the reason why this should be being not fully understood, but researchers have thought that breastfeeding may change the cells in the breast, thus making them less prone to the development of cancer.

c. Oestrogen in Pharmaceutical Products - The Pill and HRT

The use of contraceptive pill that contains female hormones has been shown to slightly increase a woman’s risk to breast cancer(Komen,2019). Studies have also shown that this risk slowly disappears after cessation of the use of the pill wherein it is no longer an issue after 10 years' cessation of use (Bardaweel,Akour, Al-Muhaissen, Alsalamat and Ammar,2019). Again, studies have shown that the post-menopausal use of Hormone Replacement Therapy (HRT) drugs can increase a woman's risk of breast cancer (Jones,Shoemaker, Wright,Mcfadden, Griffin, Thomas,hemming, Wright,Ashworth and Swerlow,2016). This is evident with studies in the United States of America, France and Germany indicating a slight decrease in the incidence of breast cancer in recent years which was thought to be attributed to the drop in the total number of women prescribed to take Hormone Replacement Therapy (HRT) drugs (De,Neutel,Olivotto and Morrison,2010). This was based on the well-documented evidence that a woman's lifetime exposure to both her own natural oestrogen and to pharmaceutical products' oestrogen - the Pill and HRT influences a woman's risk of breast cancer which calls for scientists suspecting that such a constant exposure to man-made chemicals (oestrogen) may play a significant role (HEAL, 2008).

d. Weight Gain and Lack of Exercise (Anthropometric factors)

The anthropometric factors are the factors associated with body height, weight and adiposity may influence or affect the development of breast cancer (Sougel, Durocher, Tchernof and Diorio,2017). Either weight gain or being overweight may increase a woman risk for breast cancer especially those that have gone through the menopausal period (Mohanty and Mohanty,2019). This suggests that taking of diets that avoids weight gain and encouragement of physical activity have the capacity to reduce a woman's risk of breast cancer risk (Seiler, Chen, Brown and Fagundes, 2019).

e. Alcohol Consumption and Smoking

Alcohol consumption has been consistently shown to increase a woman's risk of breast cancer in both pre- and post-menopausal women (Liu,Nguyen and Colditz, 2015). This must have been the reason why in the United Kingdom, every woman is recommended to limit the quantity of alcohol she drinks to 14 units per week [i.e. one unit is a glass of wine which is half a pint of beer or a measure of spirits] (Cancer Research UK, 2007). According to a collaborative survey conducted by the Cancer Research UK (2007) which looked at over 50 separate studies, it was suggested that drinking even small quantity of alcohol have the capability to increase the risk of breast cancer. Thus, it was shown that about 8.8% of women who did not take alcohol developed breast cancer by when they clock the age of 80 years, but for those who drink between 2 units and 4 units per day; 10.1% and 11.6% will develop breast cancer when they clock 80 years (Collaborative Group on Hormonal Factors in Breast Cancer, 2002a).

Although smoking has been long ago thought to have no significant effect on breast cancer risk (Cancer Research UK, 2007), but recent studies have begun to suggest exposure to tobacco smoke may increase the risk of breast cancer in women(Liu,Nguyen and Colditz, 2015). Also, exposure to second-hand smoke of tobacco [i.e passive smoking] has been found to slightly increase the risk of breast cancer in women (Reynolds,Goldberg,Hurley, nelson, Largent, Henderson and Berstein,2010); while research has also suggested a woman that smokes at teenager may increase her risk of breast cancer especially at post-menopause (Jones,Schoemaker, wright, ashworth nad Swerdlow,2017). It has then been established that alcohol consumption increases the risk of breast cancer(Scoccanti, Lauby-Secretan,Bello,Chajes and Romieu, 2014)

f. Race and Ethnicity

Membership of a particular race or ethnic group may also be a risk a factor for the cancer of the breast. For instance, according to the American Cancer Society (2017) study, it was found that the white women in the US are slightly more likely to develop cancer of the breast than African-American women, but African-American women are more likely to die of this cancer than the white women. Relative to age, under 45 years women, breast cancer was found to be more common in African-American women, while Asian, Hispanic, and Native American women had a lower risk of developing and dying from the disease (American Cancer Society, 2017). This suggests membership of a specific race and ethnic group may either increase or reduce the risk factors of developing the disease.

g. Other Risk Factors

Apart from the aforementioned risk factors of breast cancer, other risk factors for breast cancer are also provided. These include radiotherapy treatment for Hodgkins lymphoma (Bakkach,Mansouri, Loudiyi,Nourouti, Barakat and Mechita, 2018); having dense breasts; being taller than average and having certain kinds of non-cancerous breast disease (Lee,Chen and Elmore, 2018). Additionally, studies have shown that a woman exposure to ionizing radiation such as X-rays may increase risk of cancer. Moreover, research has also suggested that women who work predominantly at night stand an increased risk of breast cancer (Lee,Lee, jang, Kim, park and Song,2018). This however, could be attributable to the exposure to light at night when at work which represses the production of melatonin, a hormone which prevents the growth of cancerous cells, and this may also increase the release of oestrogen from the ovaries (Gonzalez-Gonzalez, Mediavilla and Sanchez-Barcelo,2018).

h. Environmental Factors

Studies have shown that the environment play a role in risk of breast cancer for a woman. In other words, the etiology of breast cancer cannot only be explained by hormonal, genetic or lifestyle alone but also environmental factors which are factors in the environment or the world around us that are responsible for at least unexplained proportion (50%) of cases (HEAL, 2008).

Result of a study showed that there is a relationship between air pollution and breast cancer,which is prevalent in urban amd industrialized environment with high level of pollution(White,Keller, Zhao, Carroll, Kaufman and Sandler,2019)

In addition to the environmental factors, exposure to carcinogenic materials is a major risk factor for breast cancer (Lewandowska, Rudzki,Rudzki, Lewandowski and Laskowska,2019) In another study conducted by Morey,Gee,Ehrensten,Shariff-Marco, Canchola,Yang et al,2019, on issues relating to migrants,it was observed that immigrant Asian Women have higher risk in having breast cancer that US-born Asia American women

i. Dietary and Nutrition as Risk Factors for Breast Cancer

One of the most critical aspects of socio-cultural aspects of breast cancer is dietary pattern of a population. Take for instance, studies have shown that breast cancer is less common in countries where people consume less meat and fat (Continuous Update Project,2018). This suggests that apart from exposure to smoking and alcoholic substances as risks factors, dietary intake defined by the cultural practices of a given population is essential in determining the extent of the influence of breast cancer. Although many aspects of lifestyle may be markedly different in those countries than in the affluent Western countries such as engagement in physical activity, body composition, and dietary intake other than meat or fat consumption as well as exposures to some pollutants in the air, water and soil. As such, cross-cultural comparisons of this phenomenon are useful for formulating hypotheses though subject to substantial confounding even more detailed studies.

In addition, research in socio-cultural factors associated with the etiology of breast cancer showed that dietary intake and nutrition along with some environmental exposures of a population during fetal development, infancy, childhood, and adolescence influences subsequent risks of cancer of the breast even more than the diet taken during adulthood (MacLennan and Ma, 2010). This was confirmed by a prospective cohort study conducted among 3,834 people in a family diet and health survey between 1937 and 1939 where an increased cancer mortality and breast cancer related deaths associated with higher levels of total childhood calories intake. Meanwhile an earlier ecologic study had showed that during the World War II in Norway for example, women with peri-pubertal whose diets were calorie-restricted, but otherwise sufficient had lower risk of subsequent breast cancer compared with women who were exposed to severe calorie restriction and poor food quality (Tretli & Gaard, 1996 in MacLennan and Ma, 2010).

Also, in a retrospective analysis from Nurses' Health Study (NHS) II; it was found that was a decreased risk of cancer of the breast with higher intakes of vegetable fats and vitamin E in adolescence compared with an increased risk of breast cancer with a high glycemic diet. In a similar vein, analysis from Nurses' Health Survey II revealed that there was an increased risk of breast cancer with higher level of meat consumption in adolescence. Some studies have also shown that there was increased soy consumption in childhood that decreased the risk of breast cancer (American Cancer Society,2009).

As American Cancer Society (2009) put it, nutritional studies have a propensity to control for other variables that influence breast cancer risk which is culturally determined, such variables include age at menopause and menarche, history of pregnancies, as well as alcohol and tobacco use, though some do that more rigorously than the others. In other words, dietary intake has different influences on pre- and post-menopausal cancer risk. Another study of dietary fat showed that a decreased in dietary saturated fat and total fat may moderately decrease the risk of breast cancer especially in women with post-menopausal. According to the Nurses' Health Survey II finding, a significantly increased risk of pre-menopausal cancer of the breast with higher dietary levels of animal fat was revealed. Also, pre-menopausal cancer of breast risk was found to be higher in women with higher dietary levels of fat and red meat consumption during adolescence (American Cancer Society, 2009).

2.1.6 Breast Cancer Diagnosis Process

American Cancer society (2019) defines cancer diagnosis as the various techniques and procedures used to detect or confirm the presence of cancer. It typically involves the evaluation of the patient's history, clinical examinations, review of laboratory test results and radiological data, and microscopic examination of tissue samples obtained by biopsy or fine-needle aspiration. The American Cancer Society (2014) identified the most common symptom of breast cancer to be the discovery of a new lump or mass around the breast. As the Society further stated, when the mass is painless, hard, and has irregular edges at the onset, such is more likely to be cancerous. But for the breast cancers, it can be tender, soft or rounded. Sometimes, they can be painful. Other possible signs of the health condition include swelling of all or part of a breast even though there is no distinct lump felt; skin irritation or dimpling; breast or nipple pain; nipple retraction (i.e when it is turning inward); redness, scaliness or thickening of the nipple or breast skin; and a nipple discharge other than breast milk.

Usually, diagnosis starts through referral from general practitioner (GP) to actual diagnosis when the patient experience unusual changes in the breast. Once referral is made, actual diagnosis with the aid of clinical equipment commences. One of the widely diagnosis process used in detecting breast cancer is the use of screening mammograms (American Cancer Society, 2014).

2.1.7 Spousal Relationship before the Diagnosis of Breast Cancer

The knowledge about the nature of spousal relationship that existed before the diagnosis of breast cancer is very crucial. This is because spousal relationship before the diagnosis of any disease plays a major role in determining spousal relationship during and after such illness. Rosand, Slinning, Eberhard-Gran,Roysamb and Tambs(2012),Kim and Park(2014) assert that the perceived quality of spousal's relationship before cancer appears to be a strong predictor of marital satisfaction following cancer. Prior studies show that couples who recall having experienced higher levels of marital satisfaction before diagnosis of cancer have higher levels of marital satisfaction following diagnosis and treatment (Mitchel, Maunsell, Taylor-Brown, and Kilpatrick, 2016). Studies also show that the quality of spousal relationship in the early stages of cancer illness also predicts future problems (Yedirir and Hamarta,2015).

Studies further show that low marital satisfaction identified within the first three months of diagnosis predicted both marital dissolution and marital dissatisfaction at later time points (Dorval, Maunsell, Taylor-Brown & Kilpatrickl,1999; Mitchel *et al*., 2016). Studies also show that not only does relationship dissatisfaction predict later relationship quality, but also a significant predictor of concurrent and future psychological distress (Weihs *et al*., 1999). Thus, these suggest that couples who experience relationship problems prior to the cancer may be at increased risk for difficulties during cancer experience (Yedirir and Hamarta,2015).

Mock (1993) in his study of 257 subjects who were between the ages of 29 and 79, opines that an important component to understanding the self-concept of women with breast cancer is to look at women's responses to the importance of the breast. As such, Mock in his study asked women with breast cancer to respond to the importance of their breast. According to his study's findings, the women responded that their breast is an important symbol of womanliness, sexual attractiveness, and nurturance, implying that the loss of a breast by a breast cancer woman is related to disruption of feminine identity, spousal relationship and negative alteration in body image and self-concept.

Okoiye and Annsiem (2015) elaborates in their assertion that disruption that occur after diagnosis of breast cancer is based on the fact that certain surgical procedures such as a mastectomy may make a woman feel unattractive and create negative body image to herself and her husband. It should be noted that a mastectomy can cause a complete loss of sensation in the chest area from a sexual function perspective and could impair the spousal relationship of married women with breast cancer. Little wonder, breast cancer is considered a commonest cancer.

Women's Health Care Physician (2019) report that breast cancer is common among women today, and estimated a lifetime risk of 12%,which means one in eight of the US population. In Nigeria, the prevalence of breast cancer is 116 per 100,000 with age-adjusted incidence of 25.3 per 100,000 women (Adebamowo and Ajayi, 2000). A study of the level of occurrence and order of distribution of diverse cancer types in Lagos and Ibadan found that in a breast cancer registry of over a 5-year period (2005-2009) breast cancer was the commonest cancer in the south-western Nigeria (20.2%)[Olufunsho, Ayokunle, Deborah, Vincent and Duro, 2011]. More so, a study conducted by Campbell O. B et al demonstrated that, about 29% of breast cancer patients between years 2003-2006 were below 40 years of age (Ntekim,Nuhu,& Campbell, 2009).

2.1.8 Spousal Relationship after the Diagnosis of Breast Cancer

Spousal relationship after the diagnosis of breast cancer in women has invoked a lot of concerns and beliefs. Mitchel *et al.* (2016) argue that the belief that husbands abandon their wives who have breast cancer is not rare. They emphasize that headlines in many women's magazines have presented readers with a negative impression of the effects of breast cancer surgery on spousal relationship, making women to believe that many husbands separated from their wives as a result of a breast cancer diagnosis. Indeed, comments of this form may raise anxiety, fear of abandonment, and psychosocial distress among women who are diagnosed with breast cancer.

Conversely, Okoiye and Annsiem (2015) reiterate that divorce and break-ups occur primarily among those reporting that marital difficulties predated their diagnosis. Studies show that many a times, the diagnosis of breast cancer stimulates a preoccupation with the disease and anxiety, making women with breast cancer report a pronounced difficulty with thinking of no other thing than their diagnosis and several ways in which it will affect their lives and those of their loved ones (Ghaemi, Keshavarz,Tahmasebi, Akram and Heydaru,2018).

It should be noted that within the anxieties of breast cancer diagnosis are concerns of women about their ability to continue to function in their different roles, perform their duties as well as their responsibilities (Arnabodli,Riva and Pravettoni,2017; Okoiye and Annsiem, 2015). An anxiety of this kind may be present from the moment a woman becomes aware of suspicious symptoms and may recur long after treatment has been completed (Villar,Fernandez,Garea,Pillado, Barreiri and Martin, 2017). Studies show that married women with breast cancer undergoing chemotherapy usually experience more anxiety than radiation therapy patients and their high anxiety levels were associated with decreased quality of life both at the start of the treatment and at the end of one year mark (Charalambous,Kaite, Charalambous, Tistsi and Kouta (2017)).

Though, Charalambous,et al (2017) opined that there is a need to initiate nursing interventions to reduce anxiety at the beginning of chemotherapy. It should also be noted that all symptoms, anxiety and depression are the most prevalent psychological symptoms expressed by cancer patients (Villar, et al, 2017). To be sure, anxiety and depression have been shown to be negatively associated with breast-cancer after diagnosis, at the start of treatment and post-treatment of cancer disease (Tsaras,Papathanasiou, Mitsi,Veneti, Kelesi, Zyga and Fradelos, 2018).

2.1.9 Spousal Relationship before the Treatment of Breast Cancer

Spousal relationship before the treatment of breast cancer is closely related with spousal relationship before the diagnosis of breast cancer though with different scope and nature. Hence the reason Breast Cancer Care report (2014) states that the kind of relationship partners share affects the way they deal with their diagnosis and treatment of breast cancer. The report envisages that some couples are of the opinion that the situation surrounding their spousal relationship before the treatment of their breast cancers brought them and their partners closer, while others are of the opinion that it separated them. As the words of the study’s participants revealed:

> You may find that your role changes, and people, including your partner, family, work colleagues and even your friends, have new or different expectations of you. What you expect of yourself as a partner may also change. To help you cope with the situation you need to look after yourself as much as those around you (Breast Cancer Care, 2014, p. 103).

Breast cancer alters the body image of women with cancer even before the treatment of the disease. A situation where the body image of a woman if negatively distorted is more likely to affect her relationship with her spouse. That is why studies show that the impact of breast cancer on a woman's body image is an integral part of her self-concept (Lewis-Smith, 2015). In her study, she opines that an important component to understanding the self-concept of women with breast cancer is to look at women's responses to the importance of the breast, an act which affects women even before the treatment of the disease. Women saw their breast as an important symbol of womanliness, sexual attractiveness, and nurturance. They also responded that loss of a breast is associated with feminine identity and often results in a negative distortion of body image and self-concept (Kocan and Gursoy,2016).

Before treatment, breast cancer could distort the emotions, attitudes and perceptions of women and their spousal relationships. This distortion extended beyond breast cancer to appearance, physical self and functionality of women, considering the fact that breast cancer treatment usually changes the definition of women's self by making them feel less being a woman (Paterson,Lengacher,Donovan, Kip and Tofthagen,2016). Related to this is the fact that certain surgical procedures such as a mastectomy may make a woman feel unattractive and also create a negative body image. The mastectomy can cause a complete loss of sensation in the chest area (Okoiye and Annsien, 2015).

Among spouse, the situation of breast cancer creates a state of extended stress resulting from the discovery of the disease, the process of diagnosis, surgical intervention, medical treatment and medical follow-up. The way and manner breast cancer patients adjust to the alterations in their life caused by these ongoing stressful experiences depends on their spousal relationship and coping responses (Keesing, Rosenwax and McNamara (2016). Doubtlessly, women with breast cancer awaiting or undergoing treatment are in a stressful situation and this often cause substantial distress and depressed mood in the diagnosed woman's spouse relationship, regardless of the stage of the cancer disease .Little wonder, Okoiye and Annsien (2015) suggests that the development of breast cancer disease gives credence to the fact that married women with breast cancer, especially those who are currently living with their spouse needs psycho-therapeutic intervention such as emotional intelligence training and cognitive behaviour therapy to equip themselves with necessary skills that would enable them cope with the challenges of breast cancer, adjust in their marriages and maintain positive spousal relationship.

2.1.10 Effects of Breast Cancer Treatment

Breast cancer treatment and spousal relationship can be reviewed using some side effects that we are aware of. According to American Cancer Society (2019)a breast cancer patient may undergo several kinds of treatment including surgery, radiotherapy, chemotherapy, hormone therapy and targeted therapy. These can have side effects and it is the woman living with breast cancer who experiences these directly, though the partner may also be affected. Some of these effects identified by American Cancer Society (2019)and which may affect spousal relationship are changes to a partner's breasts, hair loss, tiredness, menopausal symptoms, infertility, sex and intimacy. Explanations to each of these experiences are proffered below:

i. Changes to a Partner's Breasts

When women with breast cancer are to undergo surgery, they may be offered a mastectomy (removal of all the breast tissue including the nipple area) or breast-conserving surgery, where part of the breast is removed (also known as a lumpectomy or wide local excision). Surgery usually changes the physical appearance of a partner's breast(s) and may also cause a loss of sensation(Odie,2014). This is something that concerns many people with breast cancer and it is normal for one to find a partner worrying about it too. A breast cancer woman may fear how she will look after the operation, especially in the early days and weeks when it is likely to be bruised and swollen and scarring is more obvious. Some couples find it helpful, they prepare by looking at photographs of people who have had similar surgery, but this is a very personal choice.

On the changes to a partner's breast and how it affects spousal relationship, Smoot, Wampler and Topp (2009),reports that a breast cancer woman may be worried about how the change to or loss of their breast will affect the way their spouse feel about them sexually. Their spouse may also wonder whether they will find their wife as attractive as they did before. These thoughts can make a breast cancer woman and spouse feel guilty, especially when they think that they should just be focusing on how to get recovery. K,A breast cancer woman is very likely to be in some physical discomfort or pain after the operation. How long this lasts can vary, depending on the extent of the surgery. Close physical contact may be difficult for a while. Although this can be frustrating for both spouses, the husbands can still tell their partner how much they will like to hold them.

ii. Hair loss

Chemotherapy can cause hair thinning and loss, which can be very traumatic to spousal relationship. For some people cooling the scalp, which involves wearing a ‘cold cap’ during chemotherapy treatment, may help to minimize hair loss(Odie,2014). However, if a breast cancer woman does lose her hair, the spouse may find this difficult to adjust to. Although it can be shocking seeing a partner with no hair, a spouse should remember it will almost always grow back when the chemotherapy has finished. During this period, some people wear a headscarf, hat or wig, and a breast cancer woman may like her spouse to be involved in choosing a wig or headwear. Although the husband may find this awkward, being involved to some degree can help the husband adjust to his partner’s hair loss.

iii. Tiredness

Both radiotherapy and chemotherapy can cause tiredness to a breast cancer woman(Odie,2014) to the extent that it may affect her spousal relationship. Extreme tiredness is also known as fatigue. A breast cancer woman may feel tired or exhausted and often without the energy to complete even simple everyday tasks. It might be difficult for a spouse to see his partner unable to do the things they once did. Partners’ fatigue may even fluctuate and there will be days when they are able to carry on as normal. To the husbands, rather than assuming that their spouse always needs to do everything, it may be useful to ask what they, the husbands can help with. This can stop a breast cancer woman feeling helpless or the spouse feeling overstretched.

iv. Menopausal symptoms

For some types of breast cancer, a breast cancer woman may be advised to have hormone therapy, which is often taken over several years. While taking these drugs, the woman may experience menopausal symptoms including vaginal dryness, hot flushes, weight gain, mood swings and loss of sex drive(WiSniewska,Jochymek,Lenart-Lipinska and Chabowski,2016). Chemotherapy can also bring on these symptoms.

These can affect breast cancer women's self-esteem and confidence and they may seem like a different person at times. Therefore, saying constant words of reassurance can begin to sap their partners' energy, especially if they feel they are having no effect on their wives. However, trying to be patient with their partner may be feeling more ill at ease with their body image and sexuality than they are letting on. Spousal sexual relationship may change during this time. If this is an important aspect of the spouse' relationship, they will need to work together to overcome any difficulties they have.

v. Infertility

With no doubt, the main aim of treatment is to treat the breast cancer while causing the barest and minimum possible side effects. However, some of the treatments a breast cancer woman may be offered can cause infertility(Ewertz and Jensen,2011). This could be temporary or permanent depending on the age and treatment they are receiving. Some women may be overwhelmed by their diagnosis or not want children, and they may not raise the issue of fertility. Others can be extremely concerned about their chances of becoming pregnant in the future.

vi. Sex and intimacy

Sexual dysfuction is often a major effect of breast cancer treatment(Taylor and Meisel,2017).According to Boswell and Dizon (2015), the side effects of treatment and the physical changes a breast cancer woman experiences as a result of having breast cancer can affect and change her spouse and their attitude towards sex. If sex was not an important part of spouse relationship before a partner's diagnosis, then the husband may not feel particularly concerned. However, if the husband and his partner previously shared an active sex life, the husband will probably notice some changes. During treatment, a husband may find that his partner loses interest in sex altogether. This can be very difficult, especially if the spouse shared an active sex life before the wife's diagnosis.

2.1.11 Spousal Relationship after the Treatment of Breast Cancer

Spousal relationship after the treatment of breast cancer reflects that cancer is a stressful experience that may affect multiple aspects of psychological functioning adjustment, including social well-being,emotional well-being, body image, sexuality, and physical functioning (Zimmermann,2015). However, life after breast cancer treatment varies from person to person, and the time it takes to recover also varies. While chemotherapy may last a few months, hormone therapy can continue for several years (Breast Cancer Care, 2014).

Furthermore, in a study conducted by Dorval, Guay, Mondor, Masse, Falardeau,Robidoux, Deschenes and Maunsell(2005) using a clear and simple question, they found that a considerable proportion of couples (42%) who faced non-metastatic breast cancer report that their experience of the illness and its treatments had brought them and their spouses closer a year after the treatment of cancer. In addition to this, four characteristics were also found, and all were related to short-term interactions connected with breast cancer, which are associated with an increased sense of marital closeness in both partners. According to their findings, two weeks after the treatment of cancer, they realized that the patients gave advice to their spouse about coping with breast cancer; their spouses accompanied the patients to surgery, and the spouse's reports were confidential and independently associated with a greater likelihood of getting closer.

Relative to spousal relationship after the treatment of breast cancer, Okoiye and Anusiem (2015) found that there was a significant main effect of treatment in the pre-post spousal relationship scores of married women with breast cancer in the experimental and control groups**.** The experience associated with the diagnosis of breast cancer among married women is often challenging and devastating considering the fact that they must learn how to cope and deal with the fear of uncertainty, psycho-social and physical consequences of being diagnosed with a life-threatening illness. Breast cancer becomes an alarming health issue because of the nature of its treatment which is invasive, stressful and associated with numerous side-effects that are detrimental to spousal relationship, quality of life of women and their spouse and social contacts of victims with others (Campbell-Enns and woodgate,2015). To reiterate, this indicates that breast cancer reflects one of the most widespread threats to spousal relationship, married women's health and quality of life.

Indeed, breast cancer is an alarming health problem and a complicated disease that negatively affects the physical, social and psychological well-being of victims and their spousal relationship especially immediately after treatment. Siegel et al (2019) see it as the most common harmful disease among women globally.They also consider breast cancer to be the most first cause of death in women age 30-60 years. Furthermore, Zahlis and Lewis(2011);Neris and Anjos (2014) explain that the accompanying challenges or problems associated with the diagnosis of breast cancer, more often than not, causes grave strain to many spousal relationships of married couples. This occurs relatively to women with breast cancer experience of lengthy treatments, marriage recovery problem and family and work commitments.

Also, the negative impacts of post-treatment or after treatment of breast cancer on spousal relationship have implication on psychology, physiology and social wellbeing of the women(Saeedi, Sharbaf,Ebrahimabad and Kareshki,2019).

2.1.12 Breast Cancer and Nature of Sexual Relationship among Spouses

Apparently, chronic illnesses in general and certain cancer forms in particular may influence physical intimacy and more importantly, sexuality. Studies show that altering physical appearance due to for example, a stoma, limb amputation or removal of a breast may affect sexuality for both men and women, and fatigue and chronic weakness may decrease libido (Gilbert, Emilee,Ussher and Perz,2010). Also a person’s gender identity and ‘sense of self’ may be disturbed because of cancer in reproductive organs, with implications for the sexual desires (male, Fergus and Cullen, 2015).

On a study of breast cancer and nature of sexual relationship among spouses, Mitchel *et al.* (2016) argue that among patients with breast cancer, women who reported low marital satisfaction (assessed by a single question) within three months of diagnosis were consistently at higher risk for further marital difficulties compared with women reporting high satisfaction. The study further shows that marital breakdown mainly occurred among women who initially reported low marital satisfaction. And again, the study shows that the percentage of women who reported marital dissatisfaction 12 and 18 months after diagnosis was much higher among women with low marital satisfaction at the first interview.

Breast cancer diagnosis and treatment affect individual's sexuality and its expression in spousal relationships. Research has shown that the sex of a couple is an important component of marital satisfaction and spousal happiness (Greeff and Malherbe,2001). This has important consequences, as research shows that women [treated for gynaecologic cancer] have continuing, difficult sexual problems or dysfunctions (Carr,2015). Furthermore, the majority of couples with breast cancer experience sexual problems early in the recovery period; these problems are often still present one year later (Hegelson, Snyder and Deltman,2004)

2.1.13 Illness-behaviour of Women with Breast Cancer and Spousal Relationship

Illness behaviour of spouse is closely associated with the nature of spousal relationship couples find themselves. Mechanic (1995) sees illness behaviour as "the varying ways individuals respond to bodily indications, how they monitor internal states, define and interpret symptoms, make attributions, take remedial actions and utilise various sources of formal and informal care". In Mechanic's view, illness behaviour is socio-cultural and has a social construction which is relevant to spousal relationship. To him the bio-physiological perspective of a medical profession is insufficient to explain the complexity of illness behaviour especially when connected with spousal relationship.

Physicians perceive illness as a disease, a biological process that can be classified and treated. Their perspective ignores both the socio-cultural aspects of illness and the distinctions between illness and sickness (Twaddle, 1969), which are paramount to sociologists and to the explanation of spousal relationship among women with breast cancer. The understanding of illness behaviour of women with breast cancer becomes very important to understanding spousal relationship. Young (2004) explains that illness behaviour includes the manner in which symptoms are perceived, acted upon and evaluated by a person who recognizes some discomfort, pain, or other signs of organic malfunction. In Youngs view, illness behaviour does not only centre on the individual partner (i.e. wife) experiencing the disease which could be breast cancer, but also others (i.e. husband or partner) who also feels the pain of the wife and the disease.

The role of social network in the review of illness behaviour of women with breast cancer and spousal relationship is hereby significant. With regard to spousal relationship, Cockerham (2000) explains social networks as "social relationships a person has during day-to-day interaction that serve as the normal avenue for the exchange of opinion, information, and affection". The networks include husbands/partners, family members, friends, colleagues, and the community of individuals. The consideration of social networks in illness behaviour provides an alternative to individual-women focus of psychological models and the macrosociological model of demographic characteristics of spouse in relationship (Young, 2004).

2.1.14 Sick-role of Woman Living with Breast Cancer

According to Cockerham (2012), illness is the psychological awareness of disease, while sickness is the s*ocial* recognition of illness, which signifies an impaired social role for an ill person.

In specific terms and within the context of Yoruba culture (South-West Nigeria), people's knowledge about the causes of breast cancer in particular is still scanty in the body of literature. But general knowledge about the causes of diseases and illness exist. For instance, Jegede (2002: 328) on "Perceived causes of illness" revealed that there are four (4) etiological perspectives on the causes of illness, namely;

i) That the causes of illness can be traced to enemies (ota),which included witchcraft (aje), sorcery (oso);

ii) That illness can be caused by gods (orisa) or ancestors (ebora);

iii) That illness can be as a result of natural illness (aare)

iv) That illness can be as a result of hereditary diseases (aisan idile) (Jegede, 2002: 328).

These four etiological perspectives identified by Jegede (2002) corroborates with Erinosho (2012) who traced Yoruba people's knowledge about the causes of health and illness to natural, preternatural and mystical though without given credence to hereditary factors.

Therefore, according to Talcott Parson (1951), sickness is the inability to work and fulfil/meet expected roles. He viewed sickness as a form of deviant behaviour, wherein an individual is expected to be a productive member of the family and society. However, if the ill person cannot perform his/her duties, such as go to work, care for the family, the individual is positively sanctioned, with the permission of a medical authority. In essence, the breast cancer disenables the woman's commitment in specific contexts, such as workplace, family (nuclear and extended), social responsibilities, and spousal obligations. The 'sick role', according to Talcott Parson(1951) is based on the following premise that the sick person has two rights:

a) Should be temporarily exempted from their usual and normal roles
b) Are not responsible for their state of health(sickness).That is, it is not of their own volition.

That the sick person also has two obligations, that person must:

a) Try to get better and not get accustomed to the responsibilities that were relinquished.
b) Seek medical care and adhere to the instructions and prescriptions.

When the woman with breast cancer is ill, she does not exit her normal social roles and enters a social vacuum; rather she substitutes a new role (sick role) for the relinquished normal roles. This sick role will be exemption of some rights, responsibilities, and obligations as defined by the society or culture in which the woman lives.

2.1.15 Coping mechanisms adopted by women living with breast cancer

Berg and Upchurch (2007) posited that coping with cancer generally, is considered as a dyadic affair (spouse-to-spouse affair), which implies that the patients' adjustment is largely affected by his/her spouse's behavior and vice versa. Although it is worthy of note that the assessment of the dyadic coping processes between the husband and wife requires in-depth understanding of their interpersonal relationship in which it occurs (Berg and Upchurch, 2007), yet spousal supportiveness prior to the diagnosis or the degree to which a spouse was responsive to the partner's needs before confronted with cancer remains a critical factor in spousal relationship after the diagnosis of cancer (e.g. breast cancer) (Hagedoorn *et al*., 2011).

For example, Hagedoorn *et al.* (2011) in a study of relationship satisfaction in couples confronted with colorectal cancer in eight hospitals in Netherlands, investigated the roles of a spouse in cancer with a hypothesis that "past spousal supportiveness may act as a moderatorand the link between one partner's current support behavior and the other partner's relationship satisfaction" (p. 288) using data analyzed with dyadic data analytic approaches in a sample of 88 patients affected with colorectal cancer and their spouses in 3-9 months after diagnosis. The analysis of the study revealed that the short-term spousal active engagement involving discussion of feelings and engagement in joint problem solving was found to be positively associated with the relationship satisfaction in partners and patients, only when the past spousal support was moderately low. For the role of spousal protective buffering which involved instances like hiding their fears, worries and avoiding discussing of the disease together, it was found to be negatively linked with the relationship satisfaction in patients, only when past spousal support was moderately low. Conversely, the study showed that if past spousal support prior to the disease was high, respondents rated the quality of their spousal relationship moderately high, irrespective of their spouse's supportive behavior after diagnosis. But at later time after the diagnosis, according to the study, past spousal supportiveness was found not to mitigate the negative relationship between spousal protective buffering as well as relationship satisfaction. Therefore, as Hagedoorn *et al.* (2011) study revealed, relationship satisfaction will only be maintained when past spousal supportiveness is high even though the spouse (partner) is currently not very responsive to his/her spouse's needs in the short-term.

In the same vein, according to Taylor (1983) and, Taylor Lichtman and Wood (1984), women with breast cancer can cope with this life threatening illness in these three processes.

(a) Search for meaning – why did it happen to me?

(b) Search for mastery – how can it be prevented from happening again?

(c) Process of self enhancements: a feeling of being better off than others.

All these three processes develop and maintain illusion and a process of cognitive adaptation.

2.2 Theoretical Framework

In the first place, a ‘theory’ in itself is an abstraction because it is a mental product that arises from an attempt to find a concerted solution to a social problem. It suggests ways by which social problem of interest can be solved in a systematic manner. Theories help to develop the ideas that allow a scientist to rationalize or explain issues, occurrences,events(Bell, 2008). Theoretical framework is the configuration that can support or hold a theory adapted for a research work. Theoretical framework is useful in introducing and describing any theory adopted to explain why a research problem under investigation exists. Therefore, social theory is the framework of empirical facts used to study and understand a given social phenomenon. It is a social apparatus used by social scientists to relate social phenomenon to historical contest over a valid and reliable methodology and the primacy of the agency or structure (Giddens, 1979).

In view of the constellation of the subject matter, and the aim of the study which is to investigate the role of breast cancer in spousal relationship in the Ibadan Metropolis, Nigeria,the study adopted the Triangular Theory of Love (TTL) and Sick Role Theory (SRT).

2.2.1 Triangular Theory of Love (TTL)

Triangular theory of love is a theoretical framework that seeks to define different elements of interpersonal relationship, and illustrate how these elements can be combined to form the eight types of the feelings categorised as love. This theory was first put forward by Robert J. Sternberg in 1985 (Sternberg, 1986).

The triangular theory of love posits that love can be understood as three components forming the vertices of a triangle. These three components are *intimacy* which is found at the peak of the triangle, *passion* which is located at the left hand of the triangle, and *decision/commitment* which is at the right hand of the triangle. These three different terms can be used in many ways, hence there is a need to clarify their meanings in the context of this theory.

i. The intimacy component is primarily affective or emotive in nature, which involves feelings of closeness, warmth, connection and bondedness in the love relationship. Hence, it is more of emotional investment.
ii. The passion component refers to the drive that leads to romance, physical attraction, sexual consummations, and related phenomena in loving relationship. It is more or less motivational investment.
iii. The decision/commitment component refers, in the short-term, to the decision that one loves a person, and in the long term, to one's commitment to maintain the love. These two aspects of decision/commitment do not necessarily go together, in that one can love someone (the spouse) without being committed to the love in the long term, or one can be committed without acknowledging that one loves the other person in the relationship.

According to Sternberg (1986), love is defined as a complex whole that appears to derive in part from genetically transmitted instincts and drives, but probably in larger part from socially learned role modelling that, through observations, comes to be defined as love. In the same vein Sternberg (1986)defined love as being prototypically organised, such that certain feelings, drives, thoughts and behaviours appear as more highly characteristic of an individual.

The importance of each of these three components of love differs, also it is a function whether a relationship is short-term or long-term. In short term relationship, especially the romantic ones, passion plays a large part, intimacy plays a moderate role while decision/commitment hardly comes to play. On the other hand, in long-term close relationship which is typified in a spousal relationship, decision/commitment component plays a large role and help to sustain the relationship. In contrast, the passion component may play a moderate part,and its role may decline overtime.

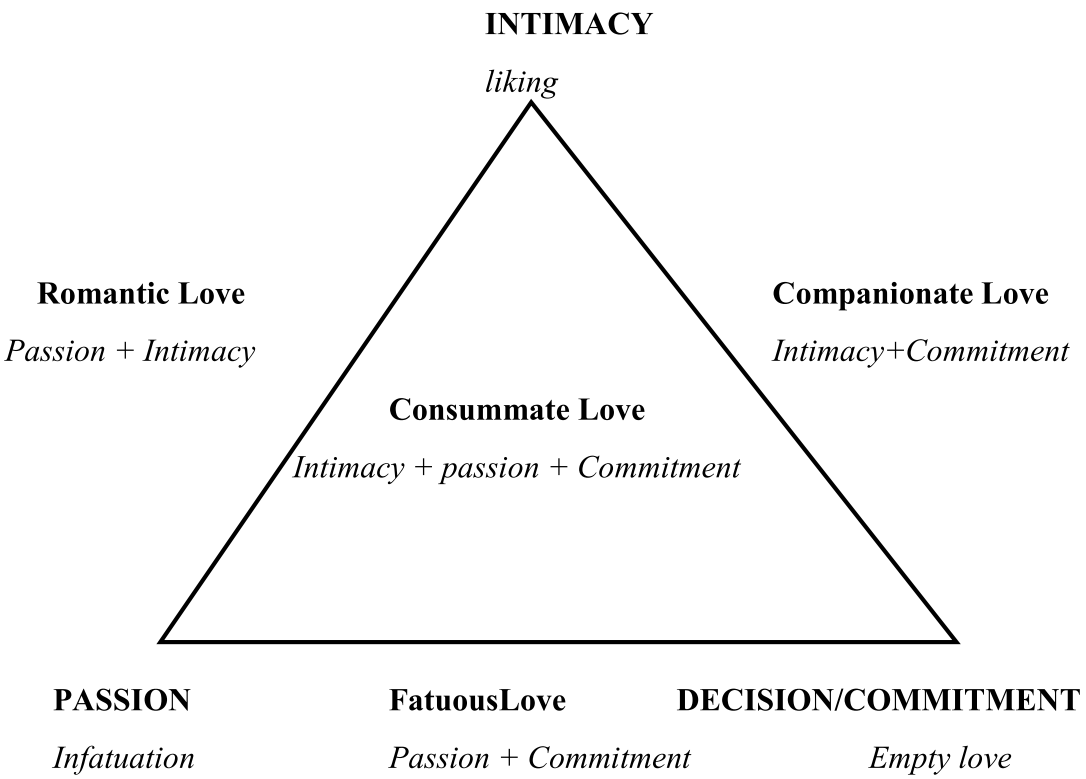
The three love components also differ in the psychophysiological involvement they offer. The passion component is highly dependent on psyschophysiological involvement; the decision/commitment involves a modest amount of psyschophysiological involvement while the intimacy component involves an intermediate amount of psychophysiological involvement.

In the work of Sternberg and Grajek (1984) in the intimacy component, among other things, there is the:

(a) desire to promote the welfare of the loved one;
(b) experience happiness with the loved one;
(c) high regard for the loved one;
(d) being able to count on the loved one in times of need;
(e) mutual understanding with the loved one;
(f) sharing of one's self and one's possession with the loved one;
(g) receipt of emotional support from the loved one;
(h) intimate communication with the loved one and;
(i) valuing the loved one in one's life.

All these attributes are supposed to be present in an intimate and healthy spousal relationship.Nonetheless, even in a situation wherein there is an ailing partner, it is expected that all these factors would be in place. The passion component of love will be highly and reciprocally interactive with intimacy. Spouses will feel intimacy in a relationship, in as much as the relationship meets their needs for passion. That is, passion may be aroused by intimacy. The short term aspect of decision/commitment component in a relationship (spousal) is the decision to love somebody (the partner), while the long term aspect decision to maintain that love.

As seen in Figure 2.1, the three components of love are separable, but interactive with each other. According to Sternberg (1986), components differ in properties including stability, conscious control ability and experiential salience. This is indicated in the triangle drawn with the three components of love as indicated at the vertices. The various types of love produced by different combinations of the components are in bold. The combination of these three basic component according to Sternberg (1986) produced eight different types love relationships as typified in the Table 2.1



(Adapted from Sternberg, R.J., 1988)

Figure 2.1: A typical triangle of Love

Table 2.1: Sternberg's Typology of Love Relationships

	Love Component		
Kind of Love Relationship	***Intimacy***	***Passion***	***Decision/Commitment***
Nonlove	Low	Low	Low
Liking	High	Low	Low
Infatuation	Low	High	Low
Empty Love	Low	Low	High
Romantic Love	High	Low	High
Companionate Love	High	Low	High
Fatuous Love	Low	High	High
Consummate Love	High	High	High

2.2.1.1 Respective Causes of the Components of Love

i. *The Intimacy Component*: This component is based on Berscheid's (1983) theory of emotion in close relationship, which is itself based on Madlers's (1975) more general theory of emotion. According to Bersheids, emotion in a close relationship is experienced only as the result disturbances or interruption of paired action sequences, which can also be termed scripts (Schank and Abelson, 2013. As individuals get into a relationship, they form paired action, sequences or scripts. As this relationship develops, there will be frequent interruptions and disruptions, as they set to know each other.

As times goes on, the frequency of interruption decreases because individuals become predictable. As this interruption decreases, so will the amount of experienced emotion. The positive side of this is that the decrease in experienced intimacy results in increased interpersonal bonding, individuals becoming much closer. On the contrary, it is difficult to indicate close relationship from no relationship at all because of the lack of observable intimacy.

There are different ways of distinguishing a live relationship (spousal) from one that is dying or dead. One way is by observing the relationship when there is some kind of interruption (such as breast cancer ailment) in order to observe the amount of intimacy that this interruption(disease) generates. For example, the diagnosis or hospitalization of a woman living with breast cancercan help one to ascertain the intensity of love the spouse has for her. On the other end of extreme interruptions, whether intentional or unintentional, one can learn of the amount of intimacy someone has or has had in a relationship. For example,if the woman eventually dies, one would be surprised by the amount of grief and distress that is experienced. The death of a spouse is one of the surest ways of finding out the amount, level and extent of intimacy that has been invested in the relationship. Even spouses that have separated or divorced also experience post-decision regrets, when they begin to realise the intimacy that they had enjoyed over time.

ii. *The Passion Component:* This is based on Solomon's (1980) opponent-process theory of acquired motivation, which states that experienced motivation for a person or an object is a function of two underlying opponent processes. The first being the positive process, which is quick to develop but also quick to fade away. The second which is negative or opponent process, is slow to develop and slow to fade away. According to this component, a surge in passion can be experienced almost instantaneously, it increases and peaks fairly rapidly. At a point the experienced level of passion decreases, as the positive force remains constant, and the negative force results in decreasing level of arousal.

At a point, one reaches a more or less stable arousal towards the spouse. Should one lose the spouse, one may go back to the baseline, which might result in depression, remorse and extreme discomfort.The transition to below- baseline status of positive arousal results from the loss of positive passionate force (the woman living breast cancer) but the continuance of the negative force (the effect of the sickness or eventual death) is continued to be felt. It is only gradually, that the effect of the negative force will slowly disappear, and the spouse begins to return to a state or close to baseline.

iii. *The Decision/Commitment Component*: The aspect of decision/commitment component of love over the duration of a close relationship (spousal) depends largely on the success of the relationship (and vice versa) which initially starts from zero at first meeting and graduates with time. Usually a long termed spousal relationship has a gradual increase in level of commitment in the first instance, and then speed up. If the relationship continues over a long term, the amount of commitment will generally level off. If the relationship has some interruptions, the level of commitment might begin a period of descent, and the relationship might eventually fail while the level of commitment may go back to the baseline. Nonetheless, in almost all spousal relationships including withpeople living breast cancer, there are ups and downs, with the commitment level varying accordingly.However, the best way to maintain commitment in a relationship is for both spouses to maintain the importance of the relationship in their lives, and to maximize the happiness they achieve through the relationship. This means that they have to work on the intimacy and passion component of their love,and expresstheir commitment to each other through words and actions.

2.2.1.2 Beyond the Basic Triangle

According to Sternberg (1986), love does not involve only a single triangle, it involves a great number of triangles of major theoretical and practical interests,which includes:

(a) Real versus ideal triangles: This involves ideal involvement, under-involvement, over-involvement and mis-involvement. Overlapping area between the real and ideal triangle is associated with satisfaction, whereas the non-overlapping between the two triangles shows dissatisfaction (Sternberg and Barnes,1985)

(b) Self versus other triangles: This comprise of perfectly matched involvements, closely matched involvement, moderately mismatched involvements and severely mismatched involvements.

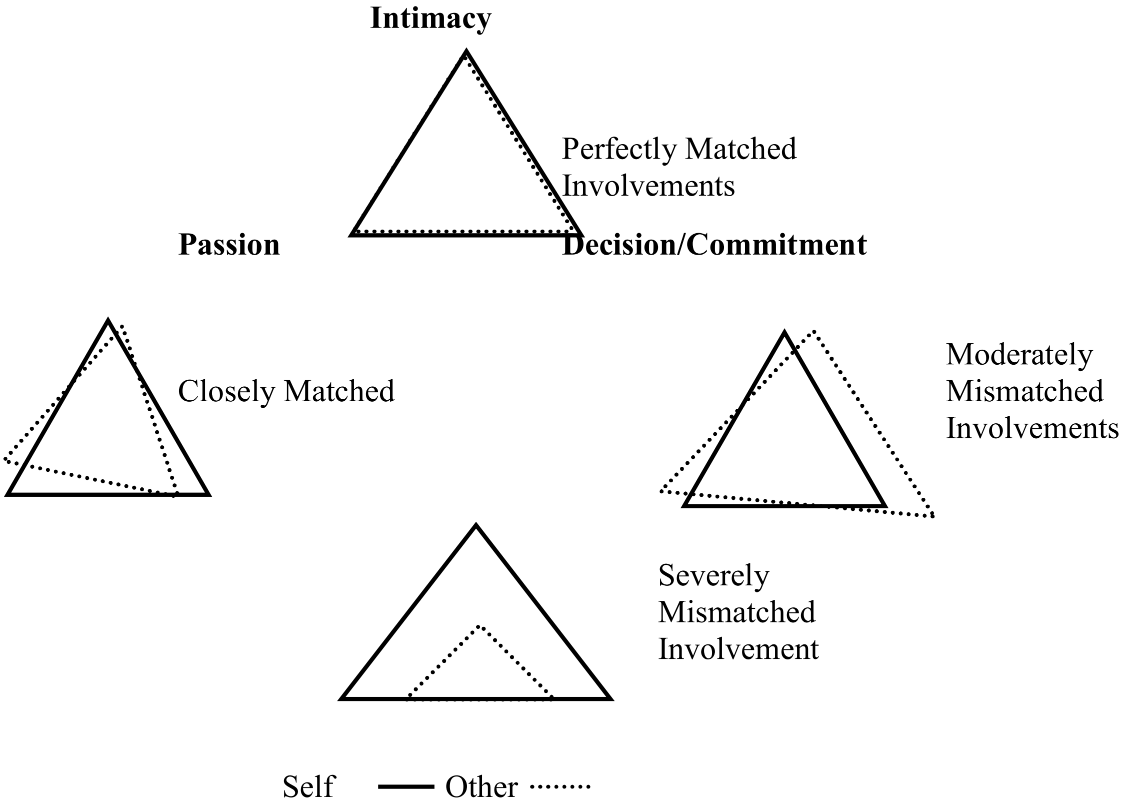
(c) Self-perceived versus other-perceived triangles: This include matched perceptions and unmatched perceptions.

(d) Interactions among love triangles

For the purpose of this study, the self versus and other triangles was found most suitable. Wherein two persons (spouses) are involved in a love relationship and each of them experiences a triangle of love. One can then conceptualise the degree of mismatch between their triangle of love. Any of these triangles might be a prototype spousal relationship before or after the diagnosis of breast cancer, or after the treatment of breast cancer. In the first analogy, the triangles are almost perfectly matched. The second panel shows closely matched involvements, the third shows moderately mismatched involvement and fourth shows severely mismatched involvement. Involvement of the spouse can differ both in area and shape of the respective triangles.

Based on the findings of Sternberg and Barner (1985) overlapping area between the two triangles is associated with satisfaction in a loving/healthy relationship (spousal), whereas non-overlapping area is associated with dissatisfaction.Below is a diagram showing the involvement of two individuals in a (spousal) relationship.

From Figure 2.2, the various levels of involvements in the spousal relationship would determine their ability to face the health challenge and the eventual outcome of the relationship.



(Adapted from Sternberg, R.J.,1988)

Figure 2.2: The overlaps of the three major components in triangle of love

2.2.2 Sick Role Theory (SRT)

Sick role theory is a major theory in Sociology which has peculiar application in medical sociology that explains the role of health and illness in social life. This theory was put forward by Talcott Parsons (1951), a functionalist sociologist who regarded being sick as a social deviant, though not equivalent to other forms of deviance such as crime. In the situation wherein criminals are punished, the sick are provided care in order to return to their normal way of life. The sick role is mostly embedded in a capitalist moral economy, but its literal notion and simple term interpretation is applied to this study.

Parson (1951) stated that illness cannot be only referred to as a biological or psychological condition, and not an unstructured state of free of social norms and regulations. Sick role is considered to be a culturally or familiarly acceptable behaviour pattern a sick person is allowed to exhibit when ill or disabled. When one is ill, one does not simply exit normal social roles to enter into a social vacuum, rather the sick person assumes a new role-the sick role- the normal (relinquished) roles. Sickness is seen as a dysfunctional condition for a family member, because when the person is sick, he/she relinquishes normal responsibilities, which other family members are expected to assist to fill in the gap. The sick role is assumed by those who are sick, and for which their family members and the society accepts their peculiar sanctioned deviance from their normal healthy roles.

The sick person therefore has two rights, which are: first, to be exempted from the usual social roles; second, not responsible for the health condition. Parson further stated that the sick person has two attending obligations, which are: try as much as possible to get better; and if unable, should seek medical care and follow doctors' prescription and advice (Parson, 1951).

2.2.2.1 The different components of the sick role

Consequent on the social control of medicine, the society allows two explicit behavioural exemption (right) to the sick person (the woman living with breast cancer) and also imposes on her two clear behavioural requirements (obligations). In essence, her everyday obligations and roles are suspended and replaced by a set of sick role rights and obligations. The rights of the woman living with breast cancer as the case may be in this study is:

1. The woman living with breast cancer is temporarily excused from her normal roles. However, based on the diagnosis and severity of her health condition, the doctor can legitimize her sick role status and allow her to forgo her normal roles and responsible discharged to her family in general and to her spouse in particular. The doctor's prescription, instruction and endorsement is required so that the society, family members, and spouse might accept her health condition and accord her due privileges. The woman is granted certain advantages and privileges, she is then relieved of some roles and responsibilities.

2. The woman living with breast cancer is not held responsible for the illness, as she never wanted to be indisposed and her reaction to the diagnosis meant that the health condition was never a welcomed intrusion into her life. In other words, she is innocent of the health condition.

On the other hand, the obligations expected from the woman therefore are:

1. The woman tries as much as possible to get better, she does not see the health condition as a liberator from the burden of her normal roles and responsibilities, but must be given attention and care by others. She is encouraged and motivated to get better in order to assume her normal roles.

2. Her compliance to the first obligation makes her to seek professional help and to adhere to medical advice and prescription. Thereafter, a doctor-patient relationship develops to enable a legitimate conformity within the deviance of illness. The woman loses autonomy and might be incapacitated, then depends solely on the doctor's instruction

For a chronic illness like breast cancer, wherein the woman might not experience absolute recovery, the sick role still makes sense, as Parson(1978) enunciated that:

> Recovery is the observe of the process of deterioration of health, that is, level of capacities, and in many of these chronic situations tendencies to such deterioration can be held in check by the proper medically prescribed measures based on sound diagnostic knowledge (p. 81).

This was described by Parson notwithstanding that might have to live a drug-regimen structured everyday life. Thus, the woman living with breast cancer has the health condition always living with her or in a passive mode, potentially lurking around the corner (Strauss, & Glasser, 1975). The woman lives relatively under the control of the medical system, by being told what and what not to eat (Cohn, 1997).

Apparently, the extended medical control and her dependence however explains the sick role under a peculiar circumstance. There is therefore the tendency for the woman to return to performance of her normal roles, which is termed ‘normalization’ (Radley,1994). By this, the woman becomes a dual citizen in the world of illness and that of being healthy. Though the woman tries as much as possible to get better and resume to her normal family and spousal roles and responsibilities, she can only do this within the limit of her strength. In the process of normalization, the woman gets enough knowledge about her health condition, as much as she can get used to her medical regimen, she also get information on the internet on such health condition. This keeps her abreast of current and practical issues on her health condition (Shilling, 2002)

As part of the sick roles expected of the chronically ill person (WLBC), she and her family might experience loss of income because of her negative job presence, that is, she cannot fully attend to economic yielding activities. She would continually seek for medical help depending on the nature and severity of the health condition.

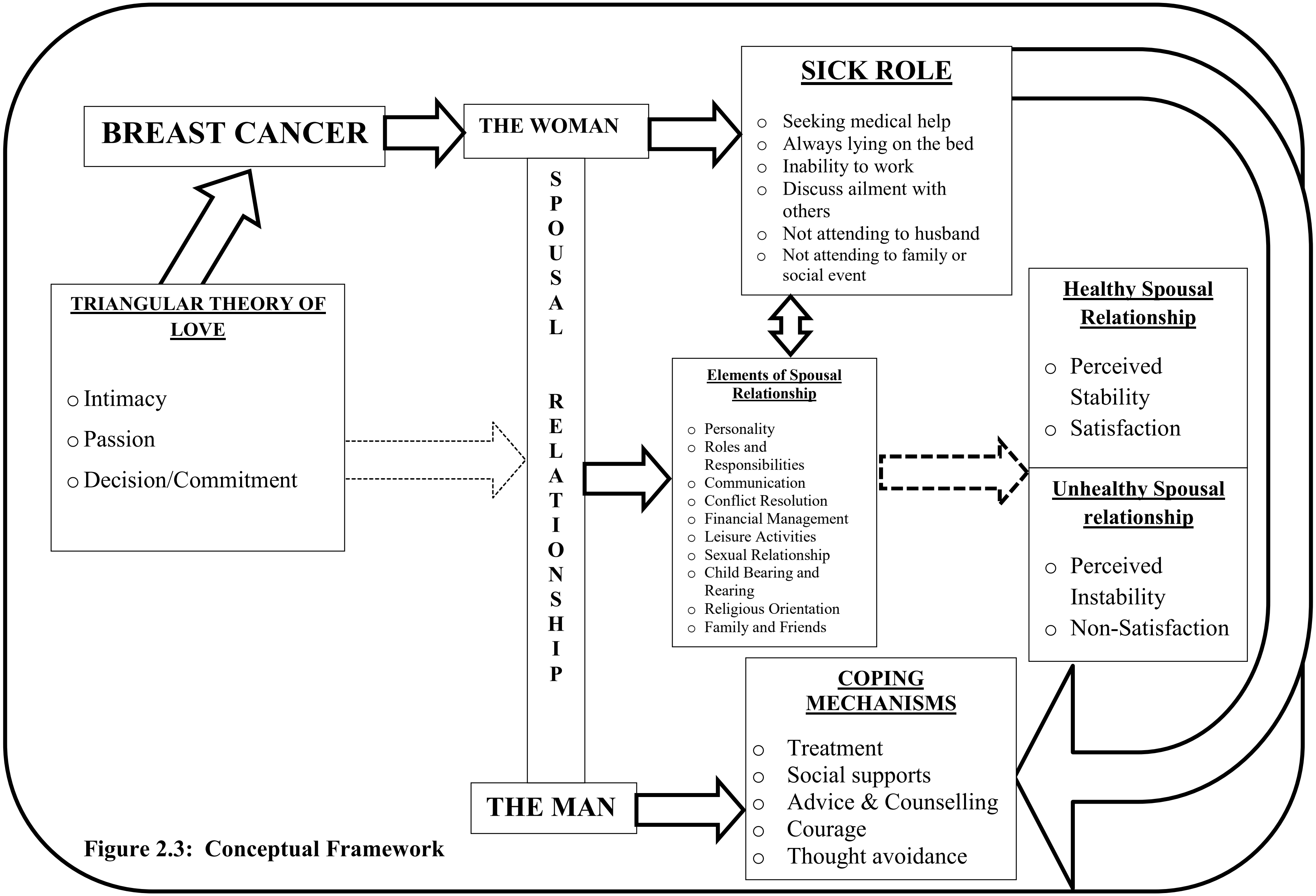


Figure 2.3: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLGY

3.0 Introduction

This chapter describes the methods employed in carrying out this research. It focuses on procedures for data collection, research design, description of study area, sample size determination and sampling procedure, researQch instruments. Explanations on data analysis and data management procedures, ethical consideration and limitation of the study are also given.

3.1 Research Design

The study was descriptive in design, using a cross sectional survey wherein information was elicited at a single point in time from respondents with various socio-demographic characteristics.The study adopted a triangulation of both qualitative and quantitative research techniques. There was documentation of both current and past experiences of the women living with breast cancer and their spouses through interviews. Some of the question were adapted from the ENRICH Marital Satisfaction Scale(Fowersand Olson,1993).Furthermore, the community's knowledge and perception about breast cancer and spousal relationship were elicited through semi-structured questionnaire.

3.2 Study Area

The study area was the Ibadan Metropolis, in Oyo State, Nigeria. In Nigeria, there are six (6) population based cancer registries namely: Ibadan Cancer Registry (IBCR); Abuja Cancer Registry(ABCR); Enugu Cancer Registry (ECR); Sokoto Cancer Registry (SCR); Ekiti Cancer Registry (ECR) and Calabar Cancer Registry(CCR)(Federal Ministry of

Health,2016). The Ibadan metropolis was purposively selected as the study area because it houses the first cancer registry in Nigeria which was established in 1962, and is located within the Department of Pathology, University College Hospital (UCH),Ibadan. The University College Hospital (UCH) Ibadan was established by an act of parliament in November 1952 for the training of medical personnel and other healthcare professionals for the country, and the West African sub-region. The hospital houses the special treatment clinic (STC), distinctstate -of- the art clinic for research, training and treatment of sexually transmitted diseases, it takes care of people living with HIV/AIDs. A pain clinic and a hospital service are also in place for the care of terminally-ill patients. Therefore, the cancer registry enjoys referrals from hospitals such as Ladoke Akintola University of Technology Teaching Hospital Osogbo, Baptist Medical Centre Ogbomoso, and other state and privately-owned hospitals within and outside Oyo State. This makes the Ibadan Cancer Registry (IBCR) a prime place for treatment of people living with cancer and a reference place for other population based cancer registries.

The women living with breast cancer were assessed at the Breast Cancer Unit of the Cancer Registry, while their spouses were assessed through introductionby their wives. For the community survey, the five urban Local Government Areas in the Ibadan metropolis was purposively selected in order to elicit information about their perceived knowledge of breast cancer and how it affects spousal relationship. The five urban Local Government Areas were: Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South-East, Ibadan and South-West.

The Ibadan metropolis, the capital city of Oyo state, is located in space within the geographical coordinates of latitude $7^{0}23^{'}$ and $7^{0}39^{'}$ North of the equator and longitude $3^{0}55$'and $3^{0}91^{'}$ East of the Greenwich. Spatially, Ibadan is located near the forest-grassland boundary of south-western Nigeria, 128 km inland northeast of Lagos and 530 km southwest of Abuja, the Federal Capital and is a prominent transit point between the coastal region of the south and the areas to the north in the extreme western portion of the country (Areola,1994). There are eleven (11) local governments areas in the Ibadan Metropolitan area consisting of five urban local governments areas known as the Ibadan metropolis in the city (Ibadan North, Ibadan North-West, Ibadan North-East, Ibadan South-East and Ibadan South-West) and six semi-urban local governments areas (Egbeda, Akinyele, Lagelu, Oluyole, Iddo and Ona-Ara) in the less city(Onibokun and Faniran,1995)

The Ibadan metropolis is host to Nigeria's premier higher institution of learning which is the University of Ibadan. Other higher educational institutions in the city include: International Institute of Tropical Agriculture(IITA),Lead City University,The Polytechnic, Ibadan, Federal College of Animal Health and Production Technology,National Horticultural Research Institute(NIHORT), Federal College of Forestry. There are also numerous public and private primary and secondary schools located in these LGAs and their suburbs.

The main economic activities engaged in by the Ibadan metropolis populace include agriculture, trade, factory work, service sector/tertiary production, public service employment and so on. The predominant crop production in Ibadan is staple food-cassava, maize and vegetables such as cucumber, tomatoes, pepper,chinese spinach, okra, aubergine. Family land and leasehold account for the dominant part of land tenure systems of urban vegetable production. Farm sizes, which average below one hectare, as well as, the number of farm holdings by individual farmers is a factor of land tenure.

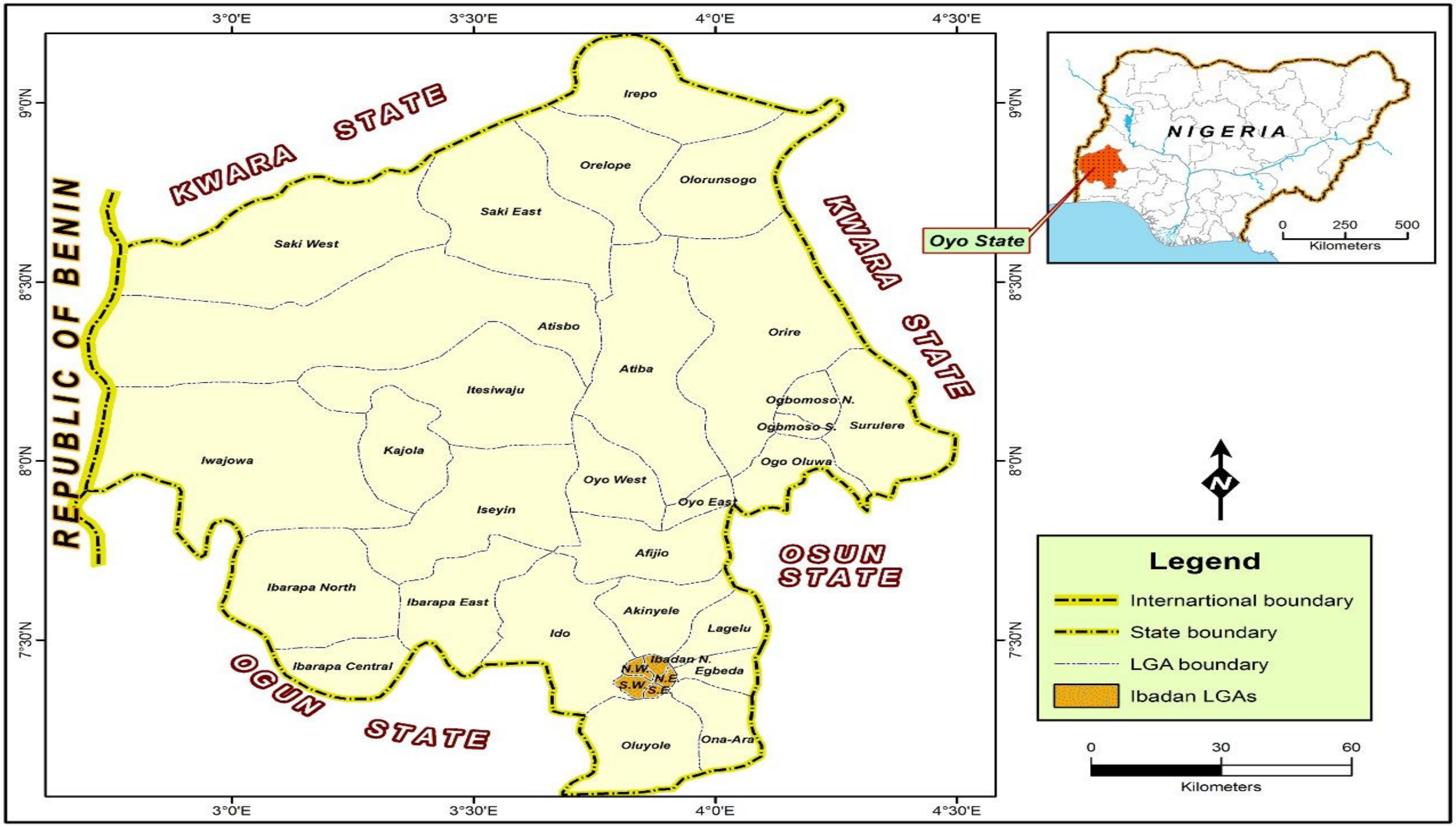


Figure 3.1.Map of Oyo State, Nigeria

Fig 3.1 is the map of Oyo State with the neighbouring states,which are Kwara, Osun and Ogun.It also reflects the 33 local government in Oyo state.

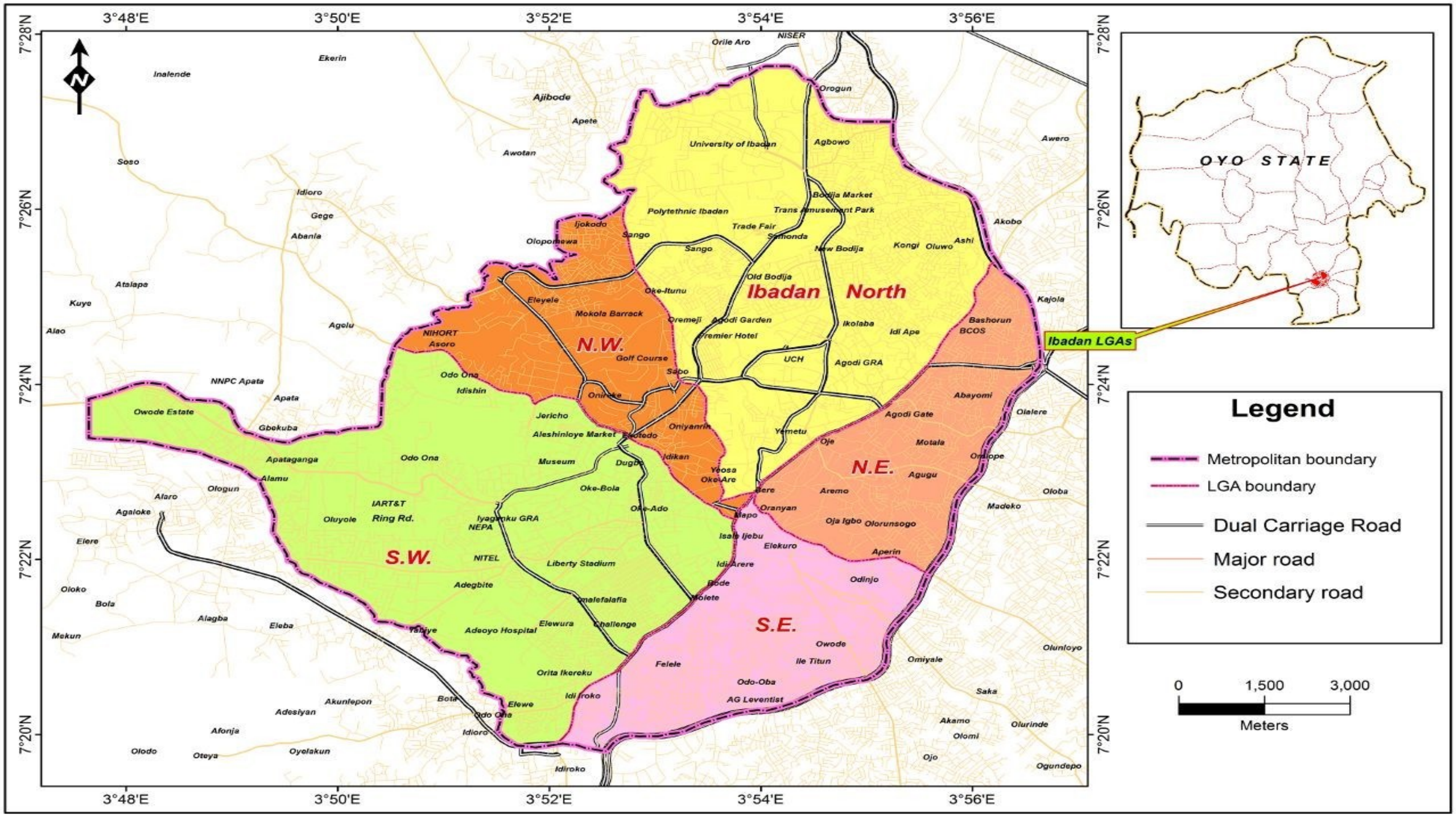


Figure 3.2.Map of the Ibadan Metropolis showing the five urban local governments

Figure 3.2 above shows the five local government areas in the Ibadan metropolis, reflecting their metropolitan boundaries

3.3 Study Population

The study population or unit of analysis are the women living with breast cancer (WLBC). These are individuals who are formally in a relationship, or are living with a partner, and have the health challenge of breast cancer. Also, husbands/partners to the women living with breast cancer were included in the study

In addition to this, knowledge and perception of community members who were either male or female, who are 18 years old and above in a household, and have resided in the selected five urban local government areas for over two years and above,were elicited.

3.4 Selection Criteria

The selection of the inclusion and exclusion criteria was based on literature and past research on breast cancer and relationships.

3.4.1 Inclusion Criteria: for the women and their spouses were as follows:

1. Women who were diagnosed with having breast cancer in the hospital.
2. Women who have been treated in the hospital.
3. Women who have been discharged after treatment.
4. Married men and women who are living together and are in a committed relationship.

3.4.2 Exclusion Criteria:

Those who did not possess the above mentioned criteria were excluded from the study.

3.4.3 Inclusion criteria for the community members:

In selecting community members for this study, only individuals who were 18 years old and above in a household, who had resided inthe selected five urban local government areas for over two years and above, were selected without any bias for sex.

3.5 Sample Size Determination

Qualitative data was obtained through In-Depth Interviews (IDIs) and Case-Studies. For the interviews, fifteen (15) IDIs were conducted with women living with breast cancer, fifteen (15) IDIs with their spouses.This gave a total number of thirty (30) individuals that were interviewed.

The number of participants recruited for the IDI was based on Convenient Sampling, and because the theme of discussion was very sensitive and quite invasive, some of the WLBC and spouses were reluctant in discussing such personal issues. Also, the researcher noted saturation or informational redundancy, hence the number recruited. Among the participants, some WLBC were selected for the post diagnosis experience, because they had just faced the reality of the experience of diagnosis and they could readily narrate their pre and post diagnosis spousal relationship experience. In thesame vein, IDI was conducted with the post-treatment patients, so that theycould retrospectively narrate their experiences (pre-diagnosis, post-diagnosis and pre-treatment). However due tothe effect of treatment on some women, it was most likely that some might have had re-call bias, hence they were not able to recall accurately their pre and post diagnosis experience, but they still narrated the post treatment experience as clearly as they could remember.

Furthermore, four (4) Case studies were recorded based on the criteria of two (2) best and two (2) bad practices in spousal relationship. Best and bad practices refer to a method of selecting a particularcase with which a model can be drawn to indicate a healthy or unhealthy spousal relationship resulting from breast cancer challenge. Thus, the criteria of best and bad practice for the case study was borne out of the interaction with the WLBC and their spouses during the course of interview.

Indicators of best practice as shown in a typicalhealthy spousal relationship arecordiality, maritalharmony, love,understanding,provide financial and emotional support, trust,care for each others concern.

While the bad practice as shown in a typical unhealthy spousal relationship includes strife,lack of trust, misunderstanding, unhappy, different individual goals, questionable disposition.

Table 3.1. Sample Size Determination for the Community Respondents

S/N	Local Government Areas	Headquarters	Total Population Projection (2016)	Proportionate Sample Size	No of wards in the LG	No of wards to be sampled	Names of Selected wards
1	Ibadan North	Agodi-Gate	437,819	$\frac{437{,}819 \times 660}{1{,}729{,}439}$ = **167**	12	5	Inalende, Yemetu, Ikolaba, Bodija& Ijokodo
2	Ibadan North East	Iwo- Road	388,725	$\frac{388{,}725 \times 660}{1{,}729{,}439}$ = **148**	12	5	Iwo-road ,Old Ife-Road, Ogboriefon, Idi-Ape & Olu-badan Area
3	Ibadan North West	Onireke	195,426	$\frac{195{,}426 \times 660}{1{,}729{,}439}$ = **75**	11	4	Idi-Ikan, Ekotedo, Inalende, & Eleyele
4	Ibadan South East	Mapo	350,170	$\frac{350{,}170 \times 660}{1{,}729{,}439}$ = **134**	12	5	Elekuro, Odinjo, Molete ,Eleta & Agbogbon
5	Ibadan South-West	Ring-Road	357,299	$\frac{357{,}299 \times 660}{1{,}729{,}439}$ = **136**	12	5	Oke-bola, Foko, Ososami, Aladorin &Adeoyo
	Grand Total		**1,729,439**	**660**	**59**	**24**	

Source: **Calculated projected population, from the National Population Census of 2012**

The sample size for each of the selected Local Governments areas in the above table was determined based on data from the census figures obtained from 2006 National Population Census (NPC). The projected figures for 2012 and the formula obtained from the NPC was used for calculating population projection.The calculations are attached as AppendixXIII.

Nevertheless, Leslie Kish(1965) had suggested the use of a formula where actual population is not known or where there is controversy surrounding the real figures. The actual incidence and prevalence rate of breast cancer in the Ibadan Metropolis cannot be ascertained, asides the age standardised incidence rate of 52.0 per 100,000 women in Ibadan as provided (Jedy-Agba, et al 2012). Thus, the sample size for the quantitative survey was calculated and determined using the Leslie Kish (1965) formula for single proportion. The sample size was calculated, thus:

$$\mathrm{N} = \frac{\left(Z\,{}^{a}\!/_{b}\right)^{2}\ pq}{d_{2}}$$

Where N = required sample size $Z\,{}^{a}\!/_{b}$ =

Z = scores corresponding to a one-sided test = 1.96.

P =Estimated population proportion (prevalence) of Breast cancer, assuming 50% (0.5)

q =1 – p

d =acceptable margin of error of 4% calculation.

Calculation

N=$\underline{(1.96)^2 \text{ x } (0.5) \text{ x } (0.5)}$

$(0.04)^2$

N = $\underline{(3.8416) \text{ x } (0.25)}$

0.0016

N = $\underline{0.9604}$

0.0016

N = 600.25

N = 600

In order to have good and wider representation for the community perception, 10% attrition rate was added to compensate for anticipated sampling error=660

Therefore, the total sample size for the community survey was 660

3.6 Sampling Procedure

For the qualitative survey using In-depth interview and Case study, Women living with breast cancer were the main unit of analysis.The participants were purposively selected from the women who were attending clinics at the Breast Cancer Unit, University College Hospital, Ibadan. The decision to purposively select women from this unit was based on the fact that the WLBC usually attended the clinic for diagnosis, treatment and follow-up checks. The clinic holds on Wednesdays and Fridays each week, with an average attendance of ten (10). In addition to this, the Spouses were purposively interviewed by reference or introduction from their wives.

Purposive sampling and reliance on availability of best and bad practices were adopted in the selection of four (4) case studies of the WLBC and their spouses.For the quantitative surveyusing Semi-structured questionnaire,multi-stage sampling technique in selecting the respondents at the community level, was adopted. This resulted in getting individuals (male or female) who were 18years(and above) in a household as identified and who had resided in the area for more than two years, to document theirperceived knowledge of breast cancer and how it affects spousal relationship. The procedure for the multi–stage sampling is described below:

Sampling Procedure

Stage One: Purposive selection of the Ibadan Metropolis, Oyo State because it houses the first and best equipped Population-Based Cancer Registry, at the University College Hospital.

Stage Two: Purposive selection of the five urban Local Governments Areas (LGA), comprising of Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South-West

Stage Three: Random sampling of two-fifths ($2/5^{th}$) of the wards in each of the selected LGAs, following the World Health Organizations (WHO) sampling manual recommendation (Lwanga, Lemeshow and WHO, 1991).

Stage Four: Clustering of communities in each of the selected wards. In each clustered community, systematic purposive sampling of streets and compounds was carried out starting from the main entrance into the community to the first housing unit at a major landmark (market, church or community head’s house) at the entrance into the community.

Stage Five: Households were selected for the study using the systematic sampling technique. In each of the selected streets, housing units were counted and divided by the sample size designated for the streets to get the sampling frame. Afterwards, the first housing units were randomly selected as the starting point before other housing units were selected at a regular interval derived from the sampling frame as represented in the formula below:

$$K = \frac{N}{n}$$

Where K is the sampling frame, N represents the total housing units in each of the selected streets, and n is the desired number of housing units to be selected in each of the selected streets. This was done throughout the selected streets until the total sample size was realised in each ward. However, in a building, it was possible that there were more than one household living there; all eligible respondents in the households of the housing units were sampled. In the housing units where the study criteria were not met, the next housing unit was used to replace it. In each of the selected household, an adult of 18 years and above, male or female was included in the sample for the administration of questionnaire.

The multi-stage sampling technique adopted is summarised as follow:

Table 3.2. Multi-Stage Sampling Procedure

STAGES	SAMPLING TECHNIQUES
1st stage	Purposive selection of the Ibadan Metropolis, of Oyo State.
2nd Stage	Purposive selection of urban LGAs: Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West
3rdStage	Random sampling of 2/5th of the wards in each of the selected Local Government
4th Stage	Clustering of communities in each ward.
5th Stage	Systematic sampling of households in each of the wards.

3.7 Research Instruments

There was triangulation of research instruments, which entailed both qualitative and quantitative data collection tools. The qualitative data were collected through the use of research tools such as In-depth interview and Case-studies guides. Quantitative data were collected through the use of semi-structured questionnaires.

3.7.1 In-depth Interview (IDI)

A total of thirty(30) In-depth Interviews were conducted.This comprised interviews with fifteen (15) women living with breast cancer and fifteen (15) spouses. The in-depth interview guide focused on the phases of breast cancer(pre,post-diagnosis and pre treatment) and how it affects spousal relationship, and in particular how it had shaped participant's general and sexual life, the resulting sick-role,the general and specific roles and responsibilities and their adopted coping mechanism. The questions were adapted from the ENRICH Marital Satisfaction Scale, Fowers and Olson(1993). There were two interview guides, one for the woman living with cancer (Appendix V) and the spouses(Appendix VI)

3.7.2 Case study

Four (4) case histories of spousal relationship of women living with breast cancer and their spouses were recorded based on best and bad practices. Focus was on the comprehensive narrative and timeline of the illness episode, diagnosis, treatment, the resulting sick-role, how it affected their spousal relationship and the adopted coping mechanisms.

3.7.3 Semi-Structured Questionnaire

The semi-structured questionnaire was administered to individuals (either male or female), who were 18 years oldand above and had resided in the community for not less than two years in the five selected urban local governments areas in the Ibadan metropolis. The questionnaire was divided into sections which were:**Section A**: Demographic Profile of the respondent , **Section B:** Knowledge about Breast Cancer, **Section C**: Breast Cancer andits perceived dynamics on Spousal Relationship, **Section D**: Sick role adopted by a woman living with breast cancer, **Section E**: Perceived effect of Breast Cancer diagnosis and treatment on spousal relationship, including the coping mechanisms adopted by woman living with breast cancer .The copies of the questionnaire were administered as follows: Ibadan North (167), Ibadan North-East (148), Ibadan North-West (75), Ibadan South-East 134), and Ibadan South-West (136). These were administered in communities that form part of the selected 24 wards.

Table 3.3 Matrix of Research Instruments for data collection based on study objectives

S/N	Objectives	IDI	Case study	Questionnaire
1	Elicit the knowledge of Spouses about breast cancer.	✓	✓	
2	Elicit the knowledge of Community members about breast cancer	✓	✓	✓
3	Describe how breast cancer diagnosis and treatment affects spousal relationship	✓	✓	✓
4	Examine the dynamics in spousal relationships and the different phases of diagnosis, post-diagnosis and post-treatment of breast cancer.	✓	✓	
5	Identify the sick-roles of women living with breast cancer and it affects on the spousal relationship.	✓	✓	✓
6	Describe spouses' and community's perception about the survival of a relationship as a result of breast cancer.	✓		✓
7	Highlight the coping mechanisms adopted by the WLBC and their spouses .	✓	✓	✓

3.8 Study Variables

The independent variable in this study is the Breast Cancer which affected the health of the woman,resulting to the WLBC assuming sick-role,and changes in her roles and responsibilities. Spousal relationship is the dependent variable. The health challenge of the woman affected the interaction between her and the spouse. Consequently, the type of spousal relationships as experienced at pre and post diagnosis, and post-treatment were described. In this study, breast cancer was also seen as an intervening variable, which was viewed to affect the type of existing spousal relationship,either at pre-diagnosis or at post-treatmentstage.

Table 3. 4 Problems Matrix – Measurement of variables

Objective	Variables	Indicators	Analysis Plan
1.	Knowledge of spouses about breast cancer	Heard about BC Rating of BC as a health problem Risk factors	Content and thematic analysis of the qualitative responses
2.	Perceived knowledge of communuity members about breast cancer	Symptoms Treatment options Curable,Preventable	Descriptive statistics: frequency distribution and percentages Inferential statistics
3.	How Breast cancer diagnosis and treatment affects spousal relationship	Personality Roles and Responsibilities Communication Conflict Resolution Finance Leisure Activities Sexual Relationship Family and Friends Child rearing and satisfaction Sexual satisfaction Religious Orientation	Content and thematic analysis of the qualitative responses Descriptive statistics: frequency distribution and percentages Inferential statistics
4.	Dynamics of Spousal relationship	Spousal relationship: Relationship before diagnosis Relationship Post diagnosis Relationship Post treatment	Content and thematic analysis
5.	Sick role of WLBC and and how it affects spousal relationship	Lying on the bed, Does not go to work, Discuss ailment with people around, Seek medical help ,Do not attend to husband's needs, Do not attend to family needs, do not attend to social events, does not take care of the children	Content and thematic analysis of the qualitative responses Descriptive statistics: frequency distribution and percentages Inferential statistics
6.	Perception about survival of a relationship because of BC	Discontinue relationship if: Son's fiancé gets diagnosed Marry a woman treated with BC Marry woman with a pedigree of BC	Frequency and percentages Content and thematic analysis
7.	Coping mechanisms adopted by the spouses	Involvement of the: Community members Government Medical personnels	Descriptive statistics: frequency distribution and percentages Content and thematic analysis of the qualitative responses

Table 3.4 above reflects the objective of the study, indicators and the analysis plan for each of them

Table 3.5. Summary of variable definitions and measurements

VARIABLES	VARIABLE DEFINITIONS	MEASUREMENT OF VARIABLES
DEPENDENT VARIABLE: Knowledge about BC symptoms	Changes in the shapes of the breast (yes=1, no=0), lump in the breast (yes=1, no=0), lump under ampit (yes=1, no=0), pain or soreness in the breast (yes=1, no=0), fluid coming out of the nipple (yes=1, no=0), patches or spot on the breast (yes=1, no=0), nipple pain or nipple turning inward (yes=1, no=0), and enlargement of the breast (yes=1, no=0).	1 = Low knowledge {1-2 symptoms} 2 = Moderate knowledge {3-5 symptoms} 3 = High knowledge {6-8 symptoms} Dummy variable 0 = Low knowledge {1- 4 symptoms} 1 = High knowledge {5 – 8 symptoms}
DEPENDENT VARIABLE: Perceived knowledge of the causes of BC	Lifestyle (yes = 1, no = 0) , nutrition (yes = 1, no = 0), genetics (yes = 1, no = 0), supernatural factor (yes = 1, no = 0), environmental pollution (yes = 1, no = 0)	1 = Social factor {lifestyle, nutrition, supernatural factors} 2 = Biological factor {genetic/hereditary} 3 = Environmental factor {environmental pollution}
DEPENDENT VARIABLE: Awareness of early screening of BC	Yes, I am aware No, I am not aware	1 = Yes, I am aware 2 = No, I am not aware
DEPENDENT VARIABLE: Perceived effect of BC on spousal relationship	Breast cancer can affect spousal relationship/breast cancer cannot affect spousal relationship	Dummy variable 0 = BC cannot affect spousal relationship 1 = BC can affect spousal relationship

Table 3.5 above shows the variable definitions and measurements that was used for quantitative analysis

3.9 Validity of Research Instruments

Validity, according to Heale and Twycross (2015) is the degree to which a test measures what it is supposed to measure. Content validity was adopted to authenticate that the study instruments measure exactly what they were designed to measure in relation to the specific objectives of the study. The assistance of a specialist was sought to develop the instruments and to determine the face and content validity of the instruments in order to ascertain whether the indicator captures the construct it sets out to measure. These instruments was originally designed in the English language, and then translated into the Yoruba language, the local language of the people, by a Language Expert. Five research assistants were trained in the techniques of handling the translated instruments (Yoruba version) and the English versions to ensure that they conveyed same messages to the respondents and correct responses were obtained.

3.10 Reliability of Research Instruments

Reliability is the consistency of a measure or instrument (Heale and Twycross,2015).Therefore,the reliability of the questionnaire(instrument) was determined using Cronbach’s Alpha correlation coefficient.The overall reliability coefficient for the instrument was 0.809, thereby exhibiting a high level of internal consistency, based on the average inter-item correlation. The first section yielded a reliability co-efficient of 0.709, while subsequent sections recorded the following: 0.613 for knowledge about breast cancer; 0.791 for breast cancer and its perceived dynamics on spousal relationship; 0.939 for sick role adopted by a woman living with breast cancer; and 0.995 for perceived effects of breast cancer diagnosis and treatment on spousal relationship. Reliability was achieved by the use of inter-coder reliability

3.11 Pre-Test

Twocouples, totaling our individuals from the Cancer Clinic, were interviewed using the interview guide. Each interview session lasted between forty-five minutes and one hour. This helped to determine the duration of interview and to improve on the interview techniques. The experience improved the skills of the interviewers and ensured that good quality data were collected, and the objectives of the study were effectively captured by the questions during the interview sessions. The interview guides were also revised. The pre-test also revealed that most interviews were better conducted in a private place and in a more relaxed environment such as in their homes (strictly on invitation from the participants).

The questionnairewas administered to respondents with similar characteristics with the proposed study population. The instruments used for the study were first administered on sixty-eight (68) households in Iddo and Akinyele Local Government Area, Oyo state in equal number, in order to determine the relevance of some of the questions to the objectives of the study. This helped to determine the appropriateness and adequacy of the questions to effectively and comprehensively provide the required information for the study. The LGAs shared almost the same characteristics with the study communities, as they represented the other six LGAs in the Ibadan metropolis.Lessons from the pre-test led to the redesigning of the questionnaire in terms of wordings, sequencing, adding some other items and deleting questions considered not relevant. Some response-options were also modified. However, mostof the earlier questions (about 95%) were considered relevant while only about five new questions were added to strengthen the instrument.

3.11.1 Selection and training of field assistants

Field assistants were considered important to the study due to the sample size and nature of the study. The pre-test afforded the opportunity of determining the profile of the field assistants needed. The field assistants selected were postgraduate students of the Department of Sociology who understood the purpose of the study, and the techniques of conducting a social research. They are individuals who are familiar with the Yoruba culture and language, and have adequateknowledge of the communities and the people. They offered the opportunity of locating the various compounds, streets and wards for administering the semi-structured interview.

The field assistants were also trained on how to handle the research instruments in the conduct of interviews. The training included methods of probing and obtaining relevant responses to all the sensitive and emotional questions without losing focus. A more mature person amongst the field assistants was selected as the field supervisor to coordinate and liaise with the assistants.

3.11.2 Field Supervision

Each interview session was regularly monitored, wherein each recorded episode was listened to, in order to ensure that questions relating to the objectives were properly framed to elicit the appropriate response.For the semi-structured questionnaire, each LGA was been supervised by a supervisor who was always providing daily information to the researcher about field activities,who also assisted in planning for daily activities.

3.12 Procedure for Data Collection

Procedurally, the consents of appropriate authorities and persons were sought and obtained before making use of any of the instruments. The data collection entailed eliciting information through the aid of an In-Depth Interviews guides (IDIs), Case-studies and Semi- Structured Questionnaires, which are all research instruments. IDI guides and Case-Studies were used to collect qualitative data, while Semi-Structured Questionnaire was used to collect quantitative data. Thus, the collection of quantitative and qualitative data was carried out simultaneously.

For the qualitative study, at the commencement of the interview, the purpose of the study was made known to the WLBC and a verbal consent to meet with their partners at a convenient time, was sought. Home visits were arranged as deemed convenient and comfortable for the participants. They were assured of confidentiality of data, and the place of interview was made free of interference as much as possible. Participants' permissions were also sought before tape-recording the interviews. Thereafter, they were briefed about the purpose of the study and requested to sign the consent form, which was done willingly by the concerned individuals. Digital recordings were done by the researcher and the research assistant thatwasspecially trained on qualitative research techniques. The researcher also assumed the role of facilitator which involved taking intensive notes during interviews and discussions which were further developed after the interviews.

For the quantitative study, the semi-structured questionnaires were administered to community members. The Yoruba language questionnaire was read out,but the entry was done in the English version for ease of analysis. Each respondent was briefed about the purpose of the study, consent was sought and obtained, thereafter,the researcher commenced the administration of the questionnaire. Thenumber of copies of thequestionnaire allocated to each field assistant, were determined by the quota of sample size apportioned to each LGA and, by extension, the selected wards.

3.13 Data Management

For the qualitative survey, interviews were recorded on audio tapes and notes taken simultaneously. The recorded interviews and discussions were transcribed and also translated into the English language, depending on the language it was conducted in. The labelling of data into computer files for the IDIs were based on respondents' ID code, for easy identification and use.

For the quantitative survey, copies of the questionnaires were numbered, face-administered and tracked on the field serially to ensure that all of the research instruments were retrieved. Tracking of the retrieved questionnaires, during its computer imputation was ensured. The data (qualitative and quantitative) were backed-up on external compact disc (CD) drive and kept in a secured place.

3.14 Method of Data Analysis

Methods of data analysis were in line with the methods used in data collection: qualitative and quantitative data.

3.14.1 Qualitative Data Analysis

The qualitative data was transcribed by a professional transcriptionist and translated depending on the medium in which the interview was conducted. The data was thematically analysed based on the objectives of the study. The data was analysed with Nvivo Software, Version 8, and content analysis guided the interpretation of the data. Content analysis, a set of precisely and clearly defined categories that apply to the material analysed in accordance with explicitly formulated rules and procedures was used. Prior to coding, transcription was read and verified for accuracy against the audio-recordings

The next stage was coding the data using “sensitizing concepts”. A sensitizing concept was basically a working tool for this analysis. The researcher then proceeded to the two phases of coding which wereinitialisation and selective/ focus coding. Similar thoughts expressed across the participating IDI were identified, coded and grouped together.

These approaches allowed for free association of thematic issues and adoption of frequently reappearing ideas in sorting and synthesizing large amount of data. Finally, the cassettes containing the recordings of the interviews and the typed transcribed work were transferred into a labeled flash drive,also into a Compact disc. They were properly kept and locked up in a safe.

3.14.2 Quantitative Data Analysis

The retrieved administered questionnaires were analysed using the Statistical Package for Social Sciences (SPSS) Version 23. Open ended questions were coded prior to analysis. Descriptive statistics were used to analyse the data. Analysis were done at univariate, bivariate and multivaraite levels.

Univariate analysis

Univariate analysis depicts the descriptive statistics (frequency distribution tables, percentages,charts and graphs) on the distribution of respondents’ socio-demographic characteristics and other variables that related to the study.It focused on examining variations of a single variable.

Bivariate analysis

Bivariate analysis was used to examine and record the association between the dependent and independent variables. This was obtained through cross-tabulations and use of chi-square test to find out if there was any association between the variables at 0.05 significant level.

Multivariate analysis

Multivariate analysis was used to identify and determine the nature and strength of relationship between the dependent variable and independent variables at 0.05 significant level.

3.15 Ethical Considerations

The study was reviewed for ethical consideration, solely, to deal with the integrity of the investigators and the protection of the study population. Approval was sought and obtained from the UI/UCH Ethical Review Board College of Medicine, University of Ibadan, with approval number UI/EC/17/0120. Furthermore, permission was obtained from the Chairman, Medical Advisory Board (CMAC) to have access to patients in the hospital. Consent of all the people involved in the study was sought at different levels. Individual consent was sought at the household level and during interviews. Generally, the following ethical issues were addressed:

i. **Confidentiality of Data:** Efforts were made to ensure that the instruments was strictly anonymous. The survey instrument did notrequire the participant to write their names, signatures, addresses or telephone numbers on it. Participants were assigned identification numbers, formed from the interview numbers. This is to make it impossible for anybody to identify the respondent or any personality, once the data had been collected. The informed consent form did not include the participant's name, only the signature. The consent form was immediately placed in a large envelope to be sealed, put in a secure place and be destroyed after three (3) years. Publications from the research were presented in aggregate data, not in personalised and recognisable form.

ii. **Beneficence to participants:**Participants were informed that there might not be immediate benefit and /or inducement for participating in the study, but the findings from the study might help participants to lead a quality life and have an enhanced spousal relationship. The policies and recommendations that emanated from the study would be of benefit to the patients and their spouses.

iii. **Non-malfeasance to participants:**No physical risks were associated with participation in this study. The interviews were conducted in an atmosphere which the participants consideredsafe and risk-free.

iv. **Voluntariness:** Participation in the study was completely voluntary. Nothing was done by the researcher or anybody representing the researcher to force or coerce anybody to participate in the study. Emphasis was placed on the right to discontinue from the study,with the assurance of no punishment for refusal or withdrawal. The importance, purpose of the research, methods, and benefits of participating was explained to the participants, but the ultimate decision to participate was left absolutely to the potential participant to make, without any form of undue pressure

v. **Justice:** Prior to commencement of interviews, participants were assured of fair and just presentation of their views without alteration. Participants were also assured that their right to information about the outcome of the study was guaranteed. They were assured of non-denial of any incidental benefit arising from the conduct of the research.

vi. **Translation of protocol to the local language:** The informed consent form and the Instruments for data collection were translated into the Yoruba Language

3.16 Limitations of the Study

In spite of the conduct of the study under the canon of science, a number of challenges were encountered. First, the study only sampled respondents from the Ibadan metropolis without considering other patients in some other health facilities in Nigeria. This may largely affect the generalisation of the findings from the study. Hence, a larger size of sample size with the inclusion of patients from other health facilities outside the Ibadan metropolis could be significant to the generalisation of the results on breast cancer and spousal relationship for proper health policy formulations.

More so, this study was a self-reported data gathering from the participants and respondents. Relying heavily on self-reported data could undermine the objectivity of the findings because most of their responses could rarely be verified independently. In other words, only face values of their responses were taken into cognizance instead of having an in-depth understanding of the subject matter. This may result to biases that could undermine the results and the generalisation of the findings from the study.

Finally, some of the participants that were recruited from the University College Hospital (UCH), Ibadan came with late presentation of the breast cancer to the clinic, which led to referrals to the Palliative Unit of the hospital. However, majority of the participants were recruited for the study at the Surgical Out-Patient(SOP) Unit of the hospital, where different cases of breast cancer were attended to. In view of this, most of the participants included in the sample from the unit seemed not to be in perfect frame of mind when discussing issues related to breast cancer. Although this may be as a result of being overwhelmed by the diagnosis or treatment procedures they had undergone, it may undermine the generalisation and validity of the findings from the research.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

In this chapter, findings from the study are presented to address the different thematic issues. In this research, a triangulation of results from both qualitative and quantitative techniques helped the researcher to integrate findings from both methods in the interpretation and presentation of data for the overall report. The key themes were based on the research objectives and they are presented below.

4.1 Background Characteristics of theIDI Participants

Table 4.1 below gives a background characteristics of the IDI participants who were15 WLBC and 15 spouseswho were interviewed. The age distribution ranged between 30 and a little above 50 years. This implies that they are adults, who were probably sexually active, and were still within the child bearing and rearing age, which was of major interest to this study. More than half of the participants, (80%) male and (67%) female practiced Christianity as their religion. The participants were economically active, wherein (40%) male and (46%) female were employed in the public/private sector, also, (47%) male and (47%) female were self employed. Furthermore, they appeared to be a literate population, as majority of them possessed tertiary education, out of which 67% were male and 60% female. The table further revealed that majority of the partners had spent more than ten (10) years together in the relationship. Thus, they were able to provide detailed information on the dynamics in their relationship as a result of the emergence of breast cancer.

Table 4.1. Background characteristics of IDI participants (N=30)

Demographic characteristics	WLBC (N=15)(%)	Spouse (N=15)(%)
Age:		
30-39	2 (13)	1 (7)
40-49	6 (40)	7 (46)
≥50	7 (47)	7 (47)
Religion		
Christianity	12 (80)	10 (67)
Islam	3 (20)	5 (33)
State of Origin		
Ekiti	1 (7)	3 (20)
0yo	4 (27)	5 (33)
Ogun	4 (27)	2 (13)
Osun	5 (33)	4 (27)
Delta/Enugu	1 (7)	1 (7)
Occupation(Profession)		
Public/Private Sector Employed	6 (40)	7 (46)
Self Employed	7 (47)	7 (47)
Unemployed (Retired	2 (13)	1 (7)
Highest level of Education		
Primary	2 (13)	2 (13)
Secondary	3 (20)	4 (27)
Tertiary	10(67)	9 (60)
Length of Marriage		
≤ 10 yrs.	2 (13)	3 (20)
11- 19	5 (33)	4 (27)
20 – 29	7 (47)	6 (40)
30 – 39	2 (13)	2 (13)

Source: Fieldwork, 2017

4.2 Background characteristics of thequestionnaire respondents

Table 4.2 below shows the breakdown of the background characteristics of the respondents from the quantitative study. The table reveals that there were a little more female (50.6%) than male (49.4%) in the sampled population. The mean age of the respondents was 36 years. A very few proportion of the sampled population were younger than 19 years (3.5%) and older than 50 years (11.2%). Christianity (66.5%) was the dominant religion in the study location, as about two out of three of the respondents indicated that they were Christians, while others were practicing Islam (32.6%) and Traditional religion (0.9%).

The major ethnic group in the study location was Yoruba (85.0%), which was a true reflection of the Ibadan metropolis being the emphasis of this study, and which reflected that they were mainly from the South-Western states of Nigeria. The other ethnic groups were in the minority in this particularly study location. In the same vein, most of the respondents were employed, either in the public or private sector (42.2%), followed by a significant number of them (36.4%) who were self-employed, which showed that the Ibadan metropolis is economically active and buoyant. There were records of individuals who were unemployed (13.8%), who were dependent on others for their needs. Some of these dependents estimated the cash received from their benefactors to be about N10,000 per month. Nevertheless, majority of the respondents (69.7%) earned less than N20,000 per month followed by those who indicated that they received between N20,000 and N49,999 (21.8%) per month. A few number of respondents (3.9%) earned above N80,000 per month

The table also revealed that the study location appeared to be a literate community, wherein majority (65.6%) had acquired education up to the tertiary level. About one out of six respondents (5.5%) had secondary education, while 6.1% of the respondents had no formal education. By implication, there was the possibility that majority of the respondents might have heard about breast cancer, perhaps about its etiology, prevention and treatment regimen.

On the marital status of the respondents, more than half of the sampled populations (54.7%) were married, while (42.4%) were single at the time of the survey. This suggests that a higher proportion of the respondents would have been able to assess how breast cancer affects spousal relationship.

Table 4.2. Background characteristics of respondents (N=660)

Demographic characteristics	Frequency (N=660)	Percentage
Gender		
Male	326	49.4
Female	334	50.6
Age *(35.53±11.244 years)*		
≤19	23	3.5
20-29	193	29.2
30-39	214	32.4
40-49	156	23.6
≥50	74	11.2
Religion		
Christianity	439	66.5
Islam	215	32.6
Traditional	6	0.9
Ethnic group		
Hausa	5	0.8
Igbo	55	8.3
Yoruba	561	85.0
Others(Ijaw, Fulani, Igala,Esan)	30	5.9
Occupation		
Unemployed	91	13.8
Public/Private sector Employed	280	42.4
Self-employed	243	36.8
Others	46	7.0
Income (month)		
Less than ₦20000	460	69.7
₦ 20000 - ₦ 49999	144	21.8
₦ 50000 - ₦ 79999	30	4.5
₦ 80000 and above	26	3.9
Highest Educational level		
No formal education	40	6.1
Primary education	36	5.5
Secondary education	151	22.9
Tertiary	433	65.6
Marital status		
Single	280	42.4
Married	361	54.7
Separated/Divorced/Widowed	19	2.9

Spousal Education*		
No formal education	267	40.0
Primary	24	4.0
Secondary	84	13.0
Tertiary	285	43.0

Source: Fieldwork, 2017

The Figure 4.1 illustrates the spatial pattern of administering the research instrument across the five Local Government Areas (LGAs) of the Ibadan metropolis. The distribution was as follows: Ibadan North 167 (25.4%), Ibadan North East 148 (22.4%), Ibadan North West 75 (11.4%), Ibadan South East 134 (20.3%), and Ibadan South West 136 (20.6%). This, sums up to an aggregate of 660 questionnaires.

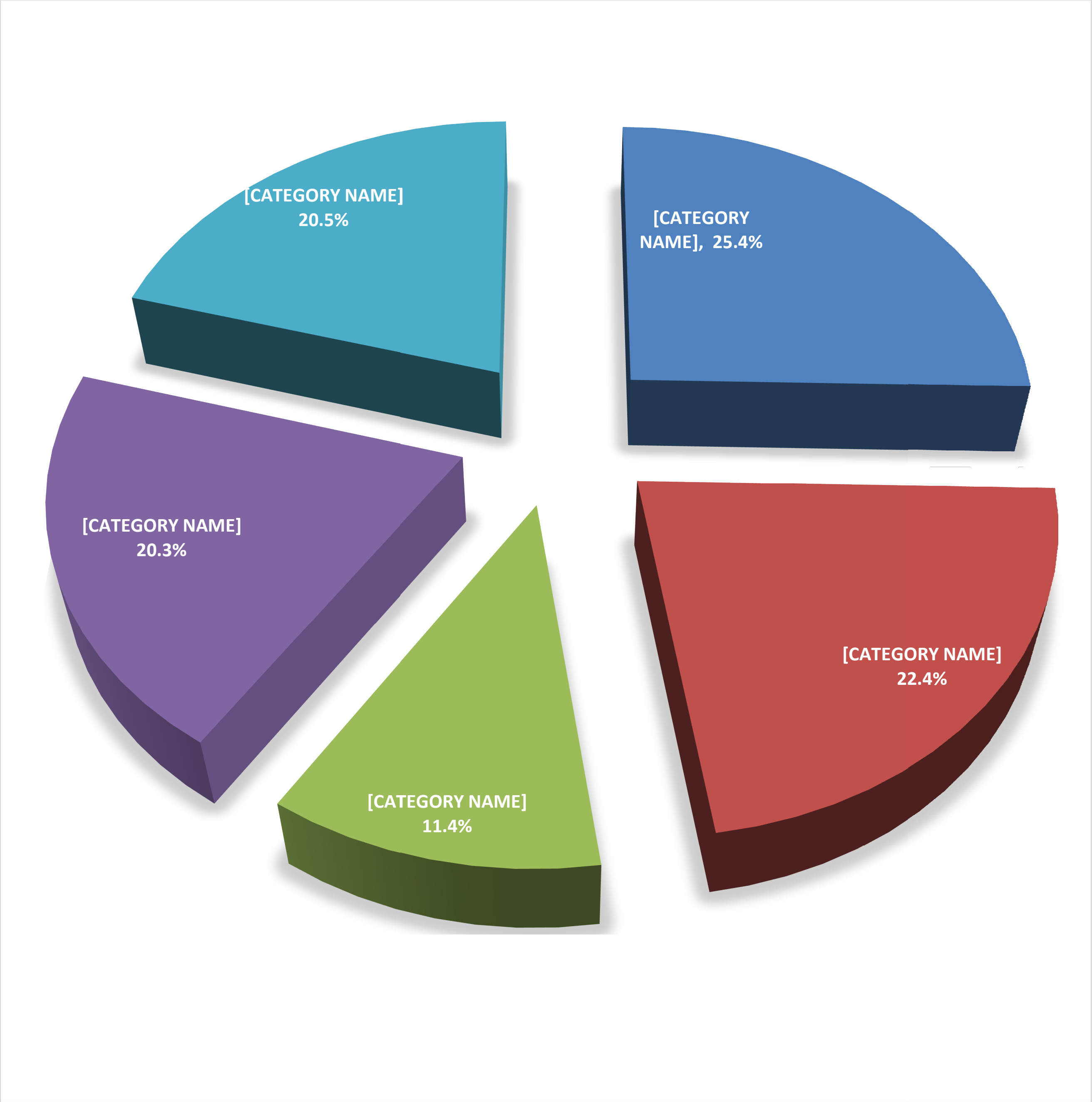


Figure 4.1. Percentage distribution of the questionnaire

4.3 Knowledge of Spouses about Breast Cancer

The general knowledge about the disease from the qualitative findings seemed to be, that, the spouses were relatively knowledgeable about the disease. Hitherto, their level of knowledge affected the time of diagnosis and by whom; their reaction to the diagnosis; the choice of treatment; involvement in the diagnosis and treatment; and the support provided following thediagnosis and treatment

From the interviews, it was observed that most of them had heard about the diseases,and they perceived it as a deadly disease.As it was reported by the spouse of one ofthe WLBC that it has no cure, but could be managed over time and it is a terminal disease. As he narrated, as this reflected the level of knowledge he had before the diagnosis of his wife:

> What I heard about breast cancer before the diagnosis of my wife was that, it has no cure. The patient would be managing it depending on how rich the person is. It is terminal (**IDI, Spouse of WLBC, Age 33, Post Diagnosis).**

As another spouse added, BC is referred to as a killer disease with the exception of his wife as he stated affirmatively that the case of his wife would be different with the help of God. He said:

> I have heard that it is a killer disease, a terminal disease The only way out of it is not to have it at all. If anyone has it, it will be the one that will put an end to the woman's life; but with the help of God, there is an end to our own case **(IDI, Spouse of WLBC, Age 44, Post-Treatment).**

From the perspective of a WLBC who also attributed the cause of the disease to spiritual cause (Satan), said, she had no knowledge about the disease before she became a victim, if not she would have gone for screening before the case became worse. As she explained:

> I do not even know anything about it and because I never thought I could be affected; I would have gone for screening. I don't even know at all, may be it is part of the problems Satan had sent into the world to afflict women and men at large **(IDI, WLBC, Age 49, Post Treatment).**

Apparently, from the above narrations, there seemed to be more knowledge about breast cancer after the diagnosis of the disease compared to the pre-diagnosis phase.

Furthermore, the following issues discussed below reflected the level of knowledge of the spouses and the resultants:

4.3.1. Mode of diagnosis by the spouses

The level of knowledge affected the mode of diagnosis of the disease.

a. Diagnosis by a doctor at late presentation

Interactions with the women living with breast cancer (WLBC) and their spouses, showed that they were unable to appropriate the knowledge about breast cancer's signs to their real life experience. This made some WLBC to have late presentation at the hospital and consequently the late diagnosis. One of the participants narrated her experience:

> It was documented inside the letter given to me for referral by both doctors here in University College Hospital and the private hospital. They said it is too late before coming to hospital for treatment because it has grown up to armpit level **(IDI, WLBC, Age51, Healthy, Post-Diagnosis).**

b. Diagnosis by the Spouse (Husband)

In a related manner, though there seemed to be a significant record of publicity in the mass media about breast cancer. It seemed people did not pay attention to precautions, symptoms and the immediate necessary steps in taking care of breast cancer. However, some still jokingly paid attention to some media presentations. To corroborate this, a spouse of a WLBC recorded that it was during a radio programme, that he was able to relate with the signs observed on his wife's breast. He had this to say, that:

> I was listening to a radio programme, the presenter was talking about breast cancer, it causes, together with the symptoms. Some of the symptoms and danger signs she mentioned were among the signs I observed on my wife's breast, including series of miscarriages, which my wife had had. So, I quickly telephoned the presenters in the studio to discuss with the guest health worker. After the discussion on phone, she advised us to quickly go to a standard hospital for checkup and diagnosis. We then went to Jericho Nursing Home hospital. My wife could not say that she detected herself, if not for me that called her attention to it **(IDI, Spouse of WLBC, Age47, Post-treatment).**

c. Diagnosis by Self-Prompting

A patient observed an unusual thing on her breast, and took it upon herself to find out what it was, as narrated below:

> I went to Jericho Specialist Hospital by myself, It was there I was directed for mammogram test which I did immediately. The result read negative to cancer, likewise x-ray that I did. The doctor said I should leave it because it was too small but I said "no". I insisted that they should remove it, and it was removed through surgery, and tested in laboratory. It was the laboratory result that

> showed that it was cancer. After showing the result to the doctors, they quickly referred me to the University College Hospital. So, thank God that I went ahead myself for the test **(IDI, WLBC, Age 48, Post-treatment).**

The above narration showed that the results from the mammogram and x-ray gave a wrong representation of the ailment. However, the woman insisted on following through with the necessary course of diagnosis and treatment

4.3.2 Reaction to Diagnosis

Though the participants had different mode through which the ailment was diagnosed, the diagnosis recorded in the hospital proved to be an authentic one, with little or no error. Consequently, there were diverse reactions from both WLBC and their spouses.

From the interviews, majority of them were aware of breast cancer,but these group of people seem not to know the signs and symptom to look out for. This inadequate knowledge and the inherent problem affected the first reaction to the diagnosis of breast cancer. Therefore, knowledge affected their disposition and reaction to the diagnosis. A shared experience of a spouse was that, he did not have any feeling or reaction to the wife's diagnosis report, because he does not have any prior knowledge of what breast cancer was and what it can lead to.

As a normal reaction, individuals are never pleased to receive a negative medical report. Due to the fact that majority of the people in the survey also had knowledge about breast cancer, they had perceived it as a serious illness and, also a common cause of death among women. Therefore, the women and their spouses did not readily receive the report of the diagnosis. They showed their emotions by being unhappy and cried bitterly, while some even queried God. Below are some of the reactions narrated below:

> It was as if they pronounced a death sentence on me, I felt very bad. Immediately, I called my husband and he rushed down to meet me. I opened the result and took my dictionary to translate. With the little knowledge I have as a health worker, I understood the implication of the word 'tumor' written in the report. What I first said was "Why me, God"? **(IDIC, WLBC, Age 48, Post-Diagnosis).**

The narrations below showed the reasons why they felt bad after the diagnosis report, which included that, nobody had ever experienced such disease in their lineage, coupled with the reports that had earlier been circulated about the disease.

> I was not happy at all, thinking about how and what could have caused it because no one had ever had have it in my lineage (tears rolling from her eye) **(IDI, WLBC, Age 40, Post-Treatment).**

> Ah, it is not easy, **(the man started sobbing)** I have a close friend who happens to be a medical doctor, he told me that I need to be more prayerful because if a breast is affected and removed through surgery it will definitely affect the second, breast but I cannot tell my wife **(IDI, Spouse of WLBC, Age 56, Post-Diagnosis).**

> The disturbances were becoming higher and increasing as we both see that this is a serious issue and the issue is becoming more difficult, and not easy as we thought. As a person beside her, I can see she is not her normal self, as she is no more going to the market, and this is one of the reasons why she is unhappy and disturbed. But we have our hope in God, as we know He is the greatest healer **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

While the first reaction lasted, some WLBC and their spouses quickly absorbed the shock and encouraged themselves, and they thought of the way forward rather than wallowing in self-pity, this was corroborated by these narrations:

> If I feel terribly sad and bad till next tomorrow all that is needed now is how to bring her back to her good health **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

> I did not fidget, all I was thinking about then was way out of the problem (**IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**

> Of course, I felt bad, only that I did not let my emotions to take over necessary actions that was supposed to be taken **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**

> Ah, I was very, very afraid only that I acted like a man and I did not want to show it in my wife's presence **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

From another perspective, some women were able to handle the diagnosis report shock than the spouse, which meant that being a male gender is not a function of being able to handle or process shock or crisis of life.

> I felt very bad and could not contain myself. She was the one that encouraged me, that God will answer our prayer **(IDI, Spouse of WLBC, Age 45, Post-Diagnosis).**

4.3.3 Worries, Fears and Avoidance of Talking about the Diseases

In a typical spousal relationship, the men are perceived and assumed to be stronger, and are able to withstand any harsh condition, better than the women. Within the spousal relationship, the husband tends to put up a masculine - front and tries to demystify the existence or magnitude of the health challenge.

Though, in the first instance when the husband and wife had displayed their first reaction to the diagnosis report, both of them might begin to feign the oblivion about existence and reality of the ailment. In this study, the men especially, tried to hide the worries and fears, and tried to be strong for their wives. They drew the attention of the women away from the fears attached to the ailment, and emphasised the positive side of life and the greatest possibilities that the illness would be cured, as it was also narrated below:

> My husband does not like me talking about it in order not to create unnecessary fear for myself. I am the one that brings up the discussion, most times I ask him for the way out of this problem and each time we discuss about it, am always relieved from pain and fear **(IDI, WLBC, Age 40, Post-Diagnosis).**

From the experience of another participant who shared that her husband hid his worries and fears, and this has not made her to have untimely death. Therefore, from the study, it was revealed that the rationale for hiding the women's and fears, thereby avoiding talking about the ailment has the resultant effect of seeing the positive side of life, thereby repressing the negative affect of the ailment on the mind and body, as also corroborated below:

> He does it so much, because he used to tell me not to think about it, in order not to develop high blood pressure. He avoids talking about the ailment
>
> **(IDI, WLBC, Age 48, Post-Diagnosis)**

> He does not like me being worried concerning it at all, and he has never showed any worry or fear in my presence, instead he used to tell me to be courageous, since the problem has a solution. He does not like talking about it

> unnecessarily because of deep thought that could result from it **(IDI, WLBC, Age 47, Post-Treatment).**

However, there was the need for the WLBC and the spouse to speak about their knowledge and perceived fear about the ailment, in order to seek solution and be able to follow through all the medical procedures, as also narrated below.

> He used to tell me the fact about breast cancer, that I should not to take it with levity of hand. For example, there was a time when I rejected surgery as part of treatment, he was the one that forced me to do it. He used to talk about it with me most times, especially on my clinic days he would like to know everything the doctor had said **(IDI, WLBC, Age 47, Post-Treatment).**

When the health issues were discussed between the partners, it lightened their heart and brought out more solution to the problem at hand. In essence, speaking out one's emotions was therapeutic and lightened the burden in the heart, as narrated below.

> Discussion between us is another thing that has been helpful to us since we started dealing with this breast cancer issue, our discussion most times brings out solution to our problem and we do listen to our different opinion and advise**(IDI, WLBC, Age 37, Post-Diagnosis).**

However, on a negative reflective mood, a spouse expressed the view that, despite the fact that he did not show his worries and fears, he pointed to how the health challenge affected the family especially the finance, including the children's education. Here is his narration:

> I use to hide my worries, because she is the type that worries so much being the one that is sick, but I assured her times without number that she will survive it by the grace of our Lord Jesus Christ . I meant every words that came out of my mouth, only worried about the negative change the sickness had brought to the family. Like the money spent on diagnosis, surgery, chemotherapy and drugs, was planned to be used for our building project and to cater for some household needs, but due to her sickness it did not work out again. I am also worried, because our kids have been affected they are now deprived of what they are in need of especially their academics, but thank God they usually understand whenever I explain to them what is going on **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

4.3.4 What informed the choice of treatment (Type, Choice, Extent)

From the qualitative survey, though the WLBC and the spouses had the knowledge of different treatment options, the stage of the breast cancer presentation at the clinic affected the type and extent of the treatment. As such, the WLBC and the spouse depended solely on the Oncologist's prescription for the type, choice and extent of treatment, with the ultimate goal of receiving maximum cure. Below are corresponding narrations:

> As I said earlier, she did not want to cooperate with the health workers she so much believed in the prayer. She had prayed, but I said 'truly God has answered your prayers, but we need to seek for medical help'. By so doing it was the doctors that informed the choice of treatment she had. She had chemotherapy, surgery, radiation and drugs **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

> What is my own to make choice of the treatment I would take, once I have decided to come here for treatment, the choice is theirs. If I know what to do as regards treatment, I would not be here **(IDI, WLBC, Age 50, Post-Treatment).**

> It was the doctor that explained the choice of treatment to us. He said after the total removal of the breast through surgery, she will undergo some treatments which might cause her to loose her hair and also change her complexion. We have accepted them all, at least there nothing we can do, in as much as it is for her good. According to the Doctor, the treatment would be for the next six months (**IDI, Spouse of WLBC, Age 56, Pre-Diagnosis).**

4.3.5 Involvement in theDiagnosis andTreatment

With the background information about the diagnostic process and the different available treatment options with various resultant effects, the WLBC and the spouse needed each other for the diagnosis and the eventual treatment for the woman. The spouses helped in pursuing the diagnosis processes by following their wives to the clinic, thereby not leaving them alone to face the new health dilemma, with its attendant challenges. During the diagnosis process, the spouses provided the following support, physical, emotional, financial, psychological etc, the narratives below gave a picture of the involvement of the spouse.

> I have been with her since the time we have been going from one hospital to the other, then what we have spent so far is from me, also I make sure she is in good state of mind most times,because I do not want her to breakdown as a result of deep thought **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

To another spouse who adopted the same strategy of keeping away some pieces of information from his wife said he used to do that in order to give her the assurance of peace of mind. In his statement:

> I kept many information away from her, for example when she was given one of the report where they wrote mass, I told her that" she can see that ordinary mass was written, it is not tumor or cancer". What I said really gave her peace of mind, whereas I knew that it was breast cancer. I also made sure we come together to hospital whenever there is need for it because we human beings are different.Some health workers are blunt while some are more discreet when addressing their patients. Who knows who will attend to her, among the two types of health workers. Whereas I would not want anyone to spoil the good foundation we have made for her to survive the health challenge. Another involvement of mine in the diagnosis is that I do not allow her to stay alone for a longer period of time in order to prevent high pressure, through deep thought over the breast cancer. Even when we are both at work, I make sure I call her severally to be sure she is doing fine and not alone. I am also involved in series of test that involves money, up to transport fare **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

An example of a participant who subscribed to spiritual support said that:

> Spiritual support mainly, at least I cannot enter the theatre with her but I can send my prayers to back her during diagnosis or treatment. The only time you will not see me with her is when she is in the theatre or inside the radiation machine. God is our support, I am trying my best and she is also trying her best because we have same purse where we keep our money **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**

As a strong indication of involvement, the spouses also left their comfort zone and took some time off from their work in order to be physically present during the wives' hospital appointments, as narrated below:

> He was in Abuja at work when he heard that news, he had to take two weeks leave from his boss in order to take care of me after telling him that his wife was sick. He is working with the Immigrations. He really stood by me throughout the diagnosis period even before I could set my eyes on my people he was the one I first saw. Then he also followed me to clinic each time I come. He was the one who first initiated the payment for the test, and every other thing that needed money **(IDI, WLBC, Age 40, Post-Diagnosis).**

On the contrary, some WLBC were left alone with their health burden during the diagnosis and treatment process. This evidently showed that the WLBC went through the burden all by herself, here is a narrative to that effect:

> My husband was not involved in the diagnosis and treatment. It is only God that has been my helper **(IDI, WLBC, Age 49, Post-Treatment).**

On a divergent manner, the study revealed that some spouses would have wanted to be involved in the diagnosis and treatment process, but some women could not withstand their spouses' presence at the clinic, as corroborated by a narration below:

> Although, he used to show interest in coming to see me, but I used to tell him not to come because I can't withstand his presence. I don't want him to see the present stage of the breast **(IDI, WLBC, Age 37, Post-Diagnosis).**

Notwithstanding some relationships still enjoyed the full involvement of the spouses during the diagnosis and treatment processes this is evident in the narrations below:

> My involvement on the treatment is financial involvement and moral support Then the chemotherapy treatment is threatening, the health worker told us that whenever we are coming for chemo like this, one adult should follow the woman, in order to take them home as a result of side effect, which I have been doing. After getting home, chemo used to weaken her for weeks automatically every house chore must be done by me, like sweeping, fetching of water, washing of clothes up to cooking of foods **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**
>
> He has been there for me physically and very supportive. Whenever am passing through side effect of the chemotherapy intake, he would be the one to cook and do all sort of domestic chores at home. Likewise, he is the one paying for almost all the bill for the treatment **(IDI, WLBC, Age 49, Post-Treatment).**

4.3.6 Support from the Spouse following the diagnosis and treatment

The spouses were available for their wives, and provided support within their available means to ensure the good health of their wives.

> I provided **moral support** mainly because she was down emotionally and physically after the diagnosis, so I had to stay by her to give her moral support in order to overcome the problem **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

While some participants rendered moral supports, others provided financial support as this participant stated that:

> I have made up of my mind to look for **money** for her treatment by all means, I will not mind selling my properties for her to live. For instance, the doctor wrote some drugs this morning and I have quickly sought for money to buy them. The prescribed chemotherapy is what am scouting for money to buy it, and I know God will provide because she gave birth to my children **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

To this participant, counseling was mostly provided to his wife to encourage her. As he narrated:

> **Good counseling**, he has been there for me, he was the one that was able to convince me to go for total the removal of the breast after being mentioned by the doctor. This was because I first rejected the medical advice **(IDI, WLBC, Age 40, Post-Treatment).**

4.4Community members' perceived knowledgeabout Breast Cancer

This study examined the community members perceived knowledge about breast cancer, which ranged from perceived breast cancer symptoms to perceived causes of breast cancer.The respondents were first asked whether they have heard about its symptoms or not. Figure 4.2 presents the level of perceived knowledge about the symptoms of BC. The figure shows that two-fifth of the respondents (41.8%) had high knowledge about BC symptoms, while 43.0% indicated that they had low knowledge about the symptoms of BC. This also meant that not all subjects of the study had knowledge of the symptoms of BC. This has implications on its preventive measures relative to lifestyles and nutritional intake.

The relationship between socio-demographic variables and knowledge about breast cancer symptoms (low, moderate and high knowledge) was assessed using chi square test of independence, Table 4.3 shows that there was no significant relationship between gender and knowledge about BC symptoms (X^2=0.014, DF = 2, $p > 0.05$). This suggests that being a male or a female does not determine knowledge level about the symptoms of BC.

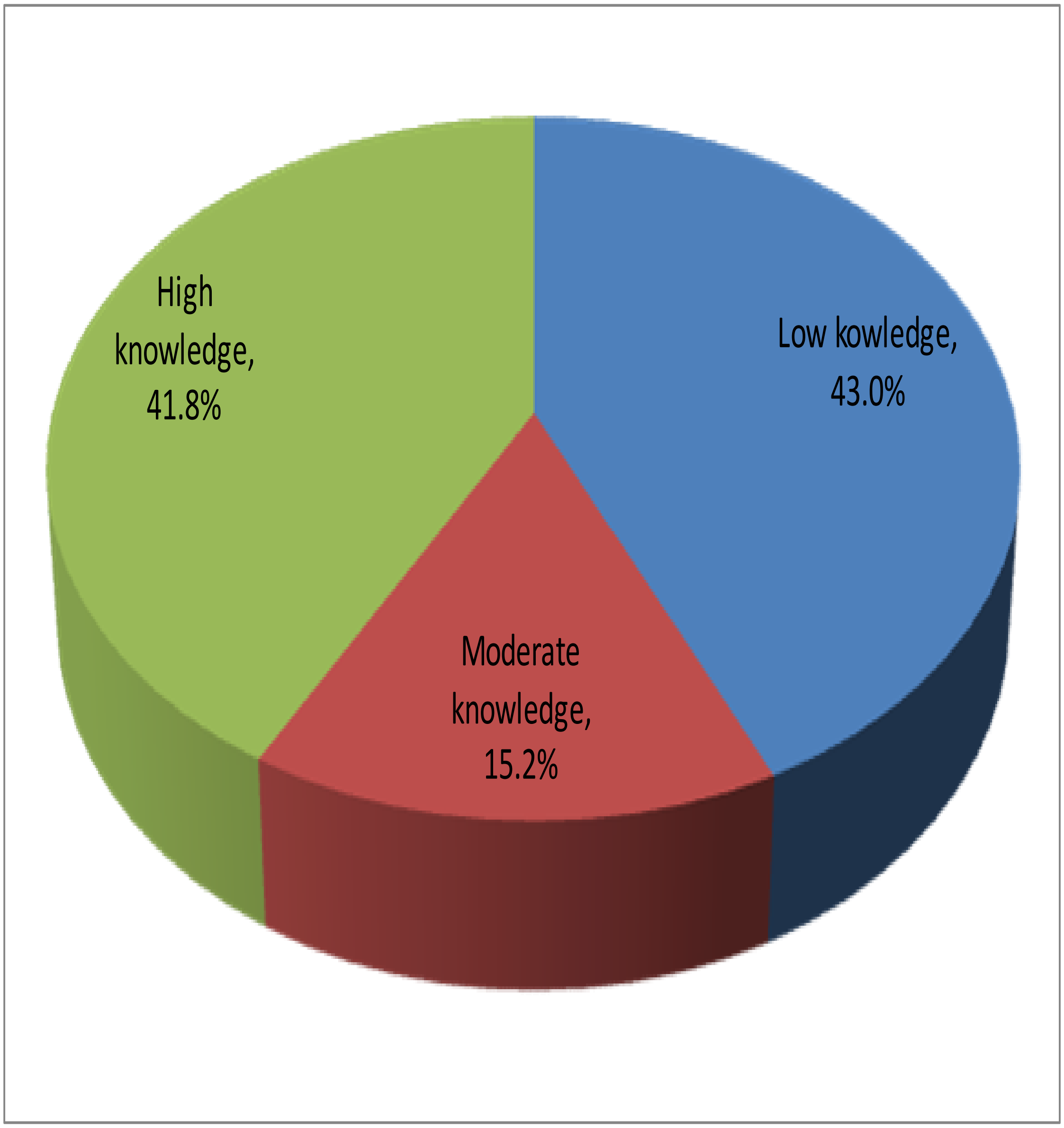


Figure 4.2. Percentage distribution about knowledge of perceived BC symptoms

Table 4.3. Relationship between socio-demographic variables and perceived level of knowledge about BC symptoms

Socio-demographic variables	Perceived Knowledge about BC symptoms Low knowledge (%)	Moderate knowledge (%)	High knowledge (%)	Chi Square; p-value
Gender				
Male	140 (49.3)	49 (49.0)	137 (49.6)	$X^2 = 0.014$; DF = 2; P = 0.993
Female	144 (50.7)	51 (51.0)	139 (50.4)	
Age				
Less than 19	14 (4.9)	2 (2.0)	7 (2.5)	$X^2 = 6.141$; DF = 8; P = 0.631
20-29	77 (27.1)	34 (34.0)	82 (29.7)	
30-39	88 (31.0)	35 (35.0)	91 (33.0)	
40-49	71 (25.0)	19 (19.0)	66 (23.9)	
50+	34 (12.0)	10 (10.0)	30 (10.9)	
Religion				
Christianity	174 (61.3)	74 (74.0)	191 (69.2)	$X^2 = 9.242$; DF = 4; P = 0.055
Islam	108 (38.0)	24 (24.0)	83 (30.1)	
Traditionalist	2 (0.7)	2 (2.0)	2 (0.7)	
Ethnic group				
Hausa	3 (1.1)	0 (0.0)	2 (0.7)	$X^2 = 3.406$; DF = 6; P = 0.756
Igbo	24 (8.5)	5 (5.0)	26 (9.4)	
Yoruba	239 (84.2)	90 (90.0)	232 (84.1)	
Others	18 (6.3)	5 (5.0)	16 (5.8)	
Occupation				
Unemployed	40 (14.1)	13 (13.0)	38 (13.8)	$X^2 = 10.560$; DF = 6; P = 0.103
Employed	113 (39.8)	56 (56.0)	111 (40.2)	
Self-employed	113 (39.8)	26 (26.0)	104 (37.7)	
Others	18 (6.3)	5 (5.0)	23 (8.3)	
Average income*				
Less than 20000	207 (72.9)	78 (78.0)	175 (63.4)	$X^2 = 14.596$; DF = 6; P = 0.024
20000 – 49999	55 (19.4)	20 (20.0)	69 (25.0)	
50000 – 79999	10 (3.5)	1 (1.0)	19 (6.9)	
80000 +	12 (4.2)	1 (1.0)	13 (4.7)	
Educational Level*				
No formal education	21 (7.4)	0 (0.0)	19 (6.9)	$X^2 = 29.339$; DF = 6; P = 0.000
Primary	24 (8.5)	1 (1.0)	11 (4.0)	
Secondary	79 (27.8)	20 (20.0)	52 (18.8)	
Tertiary	160 (56.3)	79 (79.0)	194 (70.3)	
Marital Status				
Single	124 (43.7)	41 (14.0)	115 (41.7)	$X^2 = 1.965$; DF = 4; P = 0.742
Married	151 (53.2)	58 (58.0)	152 (55.1)	
Divorced/widowed	9 (3.2)	1 (1.0)	9 (3.3)	
Spousal Education*				
No formal education	128 (45.1)	37 (37.0)	102 (37.0)	$X^2 = 15.146$; DF = 6; P = 0.019
Primary	15 (5.3)	0 (0.0)	9 (3.3)	
Secondary	39 (13.7)	12 (12.0)	33 (12.0)	
Tertiary	102 (35.9)	51 (51.1)	132 (47.8)	

Significant at $p < 0.05$; DF = degree of freedom; X^2 = chi square

It was further revealed that age and knowledge level had no significant relationship (X^2=6.141, DF = 8, $p > 0.05$). This implies that the age of the respondents had no link with the level of knowledge about BC symptoms among the study population.

In a further analysis of the relationship between socio-demographic variables and level of knowledge about BC symptoms, religion (X^2=9.242, DF = 4, $p > 0.05$), membership of ethnic groups (X^2=3.406, DF = 6, $p > 0.05$), occupation (X^2=10.560, DF = 6, $p > 0.05$), marital status (X^2=1.965, DF = 4, $p > 0.05$) were found not to be significantly related to level of knowledge about BC symptoms. This also means that adherents of a particular religion or membership of a particular ethnic group including occupation was not a determinant of the level of knowledge about BC symptoms among the study population.

Conversely, when the average income, educational level and spousal educational level were examined with the level of knowledge about BC, there were significant relationships between average income (X^2=14.596, DF = 6, $p < 0.05$), educational level (X^2=29.339, DF = 6, $p < 0.05$), spousal education (X^2=15.146, DF = 6, $p < 0.05$) and level of knowledge about BC symptoms. This is suggestive that the income, educational levels and spousal education had a great influence in determining the level of knowledge about BC symptoms in the study population.

Table 4.4 shows the distribution of respondents by the sources of knowledge and perceived severity of breast cancer in the community. Nearly all the respondents (93.0%) sourced the knowledge about the symptoms of BC from social groups when compared to other sources of knowledge. This implies that the network of relationship that exist between and among respondents such as friends, family members, religious groups in the communities influence the dissemination of BC symptoms, compared to those in the media.

The knowledge about its perceived severity was also ascertained. Nearly seven out of every ten respondents(69.7%) perceived BC as very serious health condition when compared to other categories of responses. This may also play significant role in its prevention, screening and treatment when it occurs among members of the community. Further investigation as to the awareness of the causes of BC was ascertained. Majority (71.4%) categorized BC as the commonest cause of death in a woman, and the same number, about 71.4% of the respondents were aware of the causes of BC. Only a quarter of the respondents(27.1%) had seen an affected person with BC at one time or the other, while the highest percentage of those who had seen the affected person (7.1%) indicated that they were neighbors, followed by family members (6.1%) and friends (5.9%) among others. This follows that the relationship with the affected person with BC could be instrumental in determining the knowledge about the symptoms of the health condition.

Table 4.4. Distribution of respondents by sources of knowledge and perceived severity of BC

Variables	Frequency (N=660)	Percentage (%)
Knowledge source		
Electronic media	31	4.7
Print media	3	0.5
Social groups	614	93.0
Health professionals	12	1.8
Perceived severity		
Very serious	460	69.7
Serious	99	15.0
Not serious	101	15.3
Cause of death for women		
Commonest cause	471	71.4
Rare cause	189	28.6
Awareness of its causes		
Yes, aware	471	71.4
No, not aware	189	28.6
Seen affected person		
Yes	179	27.1
No	481	72.9
Relationship with affected person		
Family members	40	6.1
Friends	39	5.9
Neighbours	47	7.1
Colleagues	20	3.0
Others (boss, customers, etc.)	33	5.0
None	481	72.9

Source: Fieldwork, 2017

Using chi square independence test, the sources of knowledge about BC, perceived severity of BC and the awareness of the causes including the relationship of the respondents and the affected person are critical in determining the level of knowledge about BC symptoms. Table 4.5 indicates that there was no significant relationship between the sources of knowledge of BC and the level of knowledge about BC symptoms (X^2= 5.998, DF = 6, $p > 0.05$). This is by implication suggesting that the sources of knowledge of BC symptoms do not determine the level of knowledge about BC symptoms among the study population. However, significant relationship was observed between perceived severity of the health condition and level of knowledge about BC symptoms (X^2= 98.908, DF = 4, $p < 0.05$). This means that the more respondents perceive the health condition to be serious, the more they have the knowledge about its symptoms.

Meanwhile, awareness of the causes of BC (X^2= 63.107, DF = 2, $p < 0.05$), whether respondents had seen an affected person with BC (X^2= 15.450, DF = 2, $p < 0.05$) and the relationship they had with the affected person (X^2= 19.150, DF = 10, $p < 0.05$) were found significantly related to the level of knowledge of BC symptoms. These imply that the more respondents were aware of the causes of BC, seen the affected person, or the degree of closeness and relationship with the affected person with BC, the higher their level of knowledge about BC symptoms.

Table 4.5. Relationship between sources of knowledge, perceived severity, and perceived level of knowledge about BC symptoms

	Perceived knowledge about BC symptoms			
Variables	**Low knowledge (%)**	**Moderate knowledge (%)**	**High knowledge (%)**	**Chi Square; p-value**
Knowledge source				
Electronic media	12 (4.2)	4 (4.0)	15 (5.4)	X^2 = 5.998; DF = 6;
Print media	2 (0.7)	1 (1.0)	0 (0.0)	P = 0.423
Social groups	267 (94.0)	94 (94.0)	253 (91.7)	
Health professionals	3 (1.1)	1 (1.0)	8 (2.9)	
Perceived severity*				
Very serious	160 (56.3)	80 (80.0)	220 (79.7)	X^2 = 98.908; DF = 4;
Serious	35 (12.3)	17 (17.0)	47 (17.0)	P = 0.000
Not serious	89 (31.3)	3 (3.0)	9 (3.3)	
Awareness of its causes*				
Yes, aware	157 (55.3)	83 (83.0)	231 (83.7)	X^2 = 63.107; DF = 2;
No, not aware	127 (44.7)	17 (17.0)	45 (16.3)	P = 0.000
Seen affected person*				
Yes	55 (19.4)	35 (35.0)	89 (32.2)	X^2 = 15.450; DF = 2;
No	229 (80.6)	65 (65.0)	187 (67.8)	P = 0.000
Relationship with affected person*				
Family members	11 (3.9)	6 (6.0)	23 (8.3)	X^2 = 19.150; DF = 10;
Friends	10 (3.5)	8 (8.0)	21 (7.6)	P = 0.038
Neighbours	18 (6.3)	10 (10.0)	19 (6.9)	
Colleagues	7 (2.5)	4 (4.0)	9 (3.3)	
Others (boss, customers, etc.)	9 (3.2)	7 (7.0)	17 (6.2)	
None	229 (80.6)	65 (65.0)	187 (67.8)	

**Significant at* $p < 0.05$*; DF = degree of freedom;* X^2 *= chi square*

While the level of knowledge about the perceived symptoms of BC is essential in determining the extent to which community members were aware of the health condition, the perceived knowledge about the cause of BC is equally important for the purpose of policy intervention and prevention.

As Figure 4.3 reveals, more than half of the respondents (68.0%) perceived the causes of BC to be social factors which ranged from spiritual attacks, devil works and all the likes, while only a few respondents perceived the causes of BC to be related to biological causes (19.0%) and environmental causes (13.0%). This suggests that many community members believed that the causes of BC were more associated with social causes than biological and environmental causes.

Table 4.6 presents the distribution of risk factors, mode of contacting BC and its methods of diagnosis. It was shown that majority of the respondents indicated that any woman (69.8%) can be at risk of developing BC, which was closely followed by 51.8% of the respondents who signified that women with family history of BC stand a risk of developing breast cancer. The mode of contacting BC shows that it is an inherited health condition – 30.9% (being the highest percentage), individual body development (26.2%), non-communicable disease (20.8%), unknown (20.2%), work of the enemy (11.7%) among others. This implies that majority of the community members knew at least one way through which BC can be contacted.

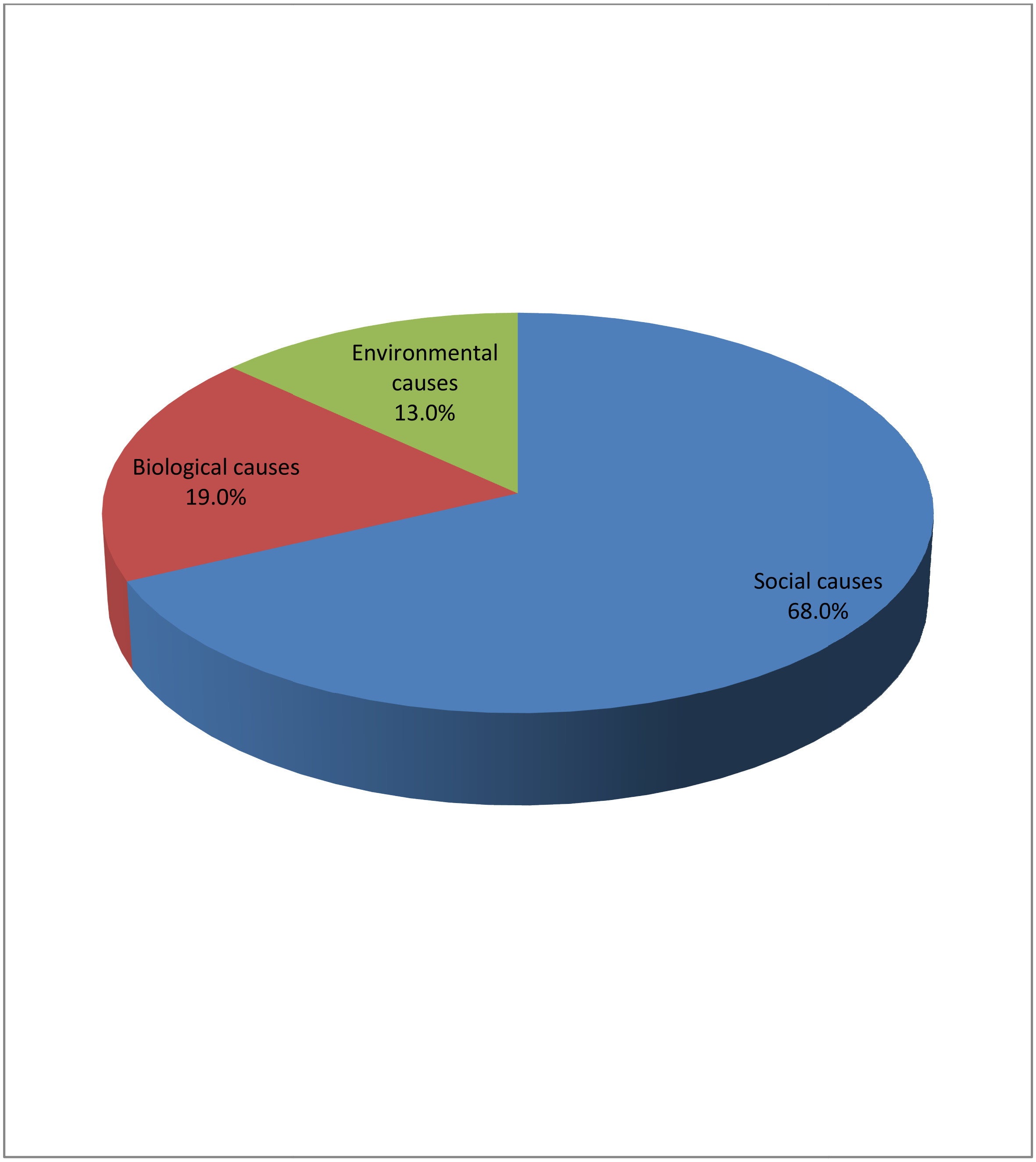


Figure 4.3. Percentage distribution of perceived causes of BC

Table 4.6. Distribution of respondents by perceived risk factors, mode of contacting BC, its diagnosis and treatment

Variables	Frequency (N=660)	Percentage (%)
Perception of those at risk(multiple response)		
Any woman	461	69.8
Women with family history of BC	342	51.8
Promiscuous women	192	29.1
Elites/educated women	212	32.1
Uneducated women	256	38.8
High socio-economic class women	227	34.4
Low socio-economic class women	226	34.2
Mode of contacting BC(multiple response)		
Non-communicable disease	137	20.8
Communicable disease	51	7.7
Individual body development	173	26.2
Inherited	204	30.9
Work of the enemy	77	11.7
Unknown	133	20.2
Mode of BC diagnosis(multiple response)		
Cannot be diagnosed	20	3.0
Self-breast examination	329	49.8
Mammography	186	28.2
Ultrasound	185	28.0
Other ways	14	2.1
Treatment options(multiple response)		
Traditional medicine	211	32.0
Radiotherapy	252	38.2
Chemotherapy	320	48.5
Lumpectomy	210	31.8
Mastectomy	235	35.6
Hormone therapy	145	22.0
Perceived effect of treatment(multiple response)		
Body disfigurement	265	40.2
Body pain	304	46.1
Psychological trauma	214	32.4
Social stigma	135	20.5
Best mode of curing BC		
Traditional medicine	21	8.3
Modern medicine	169	66.5
Change in lifestyle	51	20.1
Spiritual healing	11	4.3
Incurable	1	0.4
Only be managed	1	0.4
Perception of treatment and breast cancer		
Can be treated	479	72.6
Cannot be treated	35	5.3
Breast cancer is curable	348	52.7
Breast cancer is preventable	416	63.0

The percentage distribution of the mode of BC diagnosis revealed that self-breast examination (49.8%) has the highest percentage, which was closely followed by mammography (28.2%), and ultrasound (28.0%). This is indicative that majority of the respondents were aware that BC can be medically diagnosed which would inform its cure and treatment in a population.

The treatment options were however ascertained, in the order of highest percentages of options indicated by the respondents, it was reported that chemotherapy (48.5%), radiotherapy (38.2%), mastectomy (35.6%), traditional medicine (32.0%), lumpectomy (31.8%) and hormone therapy (22.0%) were the options available for the affected persons. This meant that respondents knew at least one of the treatment options, with chemotherapy as the most recognized options.

The perceived knowledge of treatment showed that body pain (46.1%), body disfigurement (40.2%), psychological trauma (32.1%) and social stigma (20.5%) were the perceived effects with body pain being the highest. The report also revealed that modern medicine (66.5%) had the highest percentage of respondents who described it as the best mode of curing BC. This was suggestive that, although the modern treatment options may attract body pains, it is still the best mode of curing the health condition when compared to traditional medicine.

The relationship between risk factors, diagnosis and perceived knowledge of the causes of BC was examined in this study. Table 4.7 presents the results of the analysis using chi square test of independence. It was found that all those who were at risk of developing BC which ranged from any woman ($X^2 = 154.902$; 0.000), women with family history of BC ($X^2 = 94.151$, $p < 0.05$), promiscuous women ($X^2 = 58.552$, $p < 0.05$), elites/educated women ($X^2 = 58.720$, $p < 0.05$), uneducated women ($X^2 = 86.044$, $p < 0.05$), high socio-economic class women ($X^2 = 82.267$, $p < 0.05$) to low socio-economic women ($X^2 = 72.138$, $p < 0.05$) are related to perceived knowledge of the causes of BC. These are indicative that those who were at risk of developing BC were significantly related to the perceived knowledge of the causes of BC.

The source of risk factor and perceived knowledge about the causes of BC were explored. It was found that all sources of knowledge about the risk factor are significantly related to perceive knowledge of the causes of BC ($X^2 = 20.433$, DF = 6, $p < 0.05$).

Table 4.7. Relationship between perceived risk factors, diagnosis and perceived knowledge of the causes of BC

	Perceived knowledge of the causes of BC			
Variables	**Social causes (%)**	**Biological causes (%)**	**Environmental causes (%)**	**Chi Square; p-value**
Those at risk				
Any woman*	382 (85.1)	48 (38.7)	31 (35.6)	154.902; 0.000
Women with family history of BC*	290 (64.6)	25 (20.2)	27 (31.0)	94.151; 0.000
Promiscuous women*	172 (38.3)	9 (7.3)	11 (12.6)	58.552; 0.000
Elites/educated women*	187 (41.6)	13 (10.5)	12 (13.8)	58.720; 0.000
Uneducated women*	228 (50.8)	13 (10.5)	15 (17.2)	86.044; 0.000
High socio-economic class women*	206 (45.9)	11 (8.9)	10 (11.5)	82.267; 0.000
Low socio-economic class women*	202 (45.0)	13 (10.5)	11 (12.6)	72.138; 0.000
Source of risk factor				
Electronic media	18 (4.0)	3 (2.4)	10 (11.5)	20.433; 0.002
Print media	1 (0.2)	2 (1.6)	0 (0.0)	DF = 6
Social groups	423 (94.2)	118 (95.2)	73 (83.9)	
Health professionals	7 (1.6)	1 (0.8)	4 (4.6)	
Mode of contacting BC				
Non-communicable disease*	122 (27.2)	10 (8.1)	5 (5.7)	35.292; 0.000
Communicable disease*	41 (9.1)	2 (1.6)	8 (9.2)	8.006; 0.018
Individual body development*	153 (34.1)	10 (8.1)	10 (11.5)	45.213; 0.000
Inherited*	171 (38.1)	20 (16.1)	13 (14.9)	33.896; 0.000
Work of the enemy*	65 (14.5)	6 (4.)	6 (6.9)	10.971; 0.004
Unknown*	81 (18.0)	36 (29.0)	16 (18.4)	7.489; 0.000
Mode of BC diagnosis				
Cannot be diagnosed	12 (2.7)	3 (2.4)	5 (5.7)	2.538; 0.281
Self-breast examination*	264 (58.8)	40 (32.3)	25 (28.7)	45.243; 0.000
Mammography*	154 (34.3)	19 (15.3)	13 (14.9)	25.965; 0.000
Ultrasound*	151 (33.6)	22 (17.2)	12 (13.8)	22.228; 0.000
Other ways*	6 (1.3)	4 (3.2)	4 (4.6)	4.631; 0.099
Treatment options				
Traditional medicine*	186 (41.4)	14 (11.3)	11 (12.6)	57.780; 0.000
Radiotherapy*	224 (49.9)	14 (11.3)	14 (16.1)	82.047; 0.000
Chemotherapy*	278 (61.9)	25 (20.2)	17 (19.5)	101.435; 0.000
Lumpectomy*	187 (41.6)	16 (12.9)	7 (8.0)	63.111; 0.000
Mastectomy*	211 (47.0)	15 (12.1)	9 (10.3)	79.497; 0.000
Hormone therapy*	133 (29.6)	7 (5.6)	5 (5.7)	47.966; 0.000
Perceived effects of treatment				
Body disfigurement*	222 (49.4)	31 (25.0)	12 (13.8)	53.132; 0.000
Body pain*	249 (55.5)	29 (23.4)	26 (29.9)	50.775; 0.000
Psychological trauma*	182 (40.5)	16 (12.9)	16 (18.4)	42.864; 0.000
Social stigma*	121 (26.9)	9 (7.3)	5 (5.7)	36.476; 0.000
Best mode of curing BC				
Traditional medicine	18 (8.5)	2 (7.7)	1 (6.2)	7.894; 0.639
Modern medicine	137 (64.6)	19 (73.1)	13 (81.2)	DF = 10
Change in lifestyle	47 (22.2)	4 (15.4)	0 (0.0)	
Spiritual healing	8 (3.8)	1 (3.8)	2 (12.5)	
Incurable	1 (0.5)	0 (0.0)	0 (0.0)	
Only be managed	1 (0.5)	0 (0.0)	0 (0.0)	

**Significant at $p < 0.05$; DF = degree of freedom; X^2 = chi square*

This is suggestive that the source of the knowledge of the causes of BC matter most in determining the perceived knowledge of the causes of BC be it social causes, biological causes or environmental causes. In a similar vein, there was a significant relationship between the mode of contacting BC and perceived knowledge of the causes of BC. Those who perceived it as non-communicable disease, communicable disease, individual body develops it, an inheritable disease, work of the enemy, and those who indicated unknown are significantly related to perceived knowledge of the causes of BC.

The mode of its diagnosis and perceived knowledge of its causes was determined using cross tabulation. All modes of diagnosis except those who signified that it could not be diagnosed were found significantly related to the perceived knowledge of the causes of BC. This means that self-breast examination, mammography, ultrasound, and other ways of diagnosing BC go a long way to determine the perceived knowledge of its etiology. As a matter of fact, all treatment options known to respondents were significantly related to the perceived knowledge of its etiology. It then means that any method perceived to be useful for the treatment of BC would determine its perceived knowledge of the causes among the study population.

In an attempt to examine the relationship between perceived effects of treatment and perceived knowledge of the causes of BC, findings indicated that there was a significant relationship between body disfigurement, body pain, psychological trauma, social stigma and perceived knowledge of its etiology. This is therefore suggestive that all kind of perceived effects of treatment are related to perceived causes such that it could either be related to social, biological and environmental causes of BC. While treatment options and perceived effects of treatment were significantly related to perceived knowledge of the causes of BC. The best option of curing BC had no significant relationship with perceived knowledge of the causes of BC among the study population. This could be as a result of the fact that none of the respondents had ever experienced BC, thus, they were unable to determine the best treatment option based on the knowledge of the causes of the disease.

Further examination of the relationship between socio-demographic variables and perceived knowledge of the causes of BC on Table 4.8 shows that gender and perceived knowledge of the causes of BC were related ($X^2 = 7.910$, DF = 2, $p < 0.05$). This also means that while more male respondents (53.0%) perceived that BC was associated with social causes, more female respondents (60.5%) perceived BC to be associated with biological causes as well as environmental causes when compared to their male counterparts (55.2%).

Table 4.8. Relationship between socio-demographic variables and perceived knowledge of the causes of BC

Socio-demographic variables	**Perceived Knowledge of the causes of BC**			**Chi Square; p-value**
	Social causes (%)	**Biological causes (%)**	**Environmental causes (%)**	
Gender*				
Male	238 (53.0)	49 (39.5)	39 (44.8)	$X^2 = 7.910$;
Female	211 (47.0)	75 (60.5)	48 (55.2)	DF = 2;
				P = 0.019
Age				
Less than 19	12 (2.7)	6 (4.8)	5 (5.7)	$X^2 = 7.134$;
20-29	129 (28.7)	40 (32.3)	24 (27.6)	DF = 8;
30-39	156 (34.7)	35 (28.2)	23 (26.4)	P = 0.522
40-49	105 (23.4)	27 (21.8)	24 (27.6)	
50+	47 (10.5)	16 (12.9)	11 (12.6)	
Religion				
Christianity	294 (65.5)	88 (71.0)	57 (65.5)	$X^2 = 3.186$;
Islam	151 (33.6)	34 (27.4)	30 (34.5)	DF = 4;
Traditionalist	4 (0.9)	2 (1.6)	0 (0.0)	P = 0.527
Ethnic group				
Hausa	5 (1.1)	0 (0.0)	0 (0.0)	$X^2 = 6.796$;
Igbo	37 (8.2)	9 (7.3)	9 (10.3)	DF = 6;
Yoruba	381 (84.9)	104 (83.9)	76 (87.4)	P = 0.340
Others	26 (5.8)	11 (8.9)	2 (2.3)	
Occupation status				
Unemployed	54 (12.0)	20 (16.1)	17 (19.5)	$X^2 = 11.305$;
Employed	181 (40.3)	61 (49.2)	38 (43.7)	DF = 6;
Self-employed	178 (39.6)	36 (29.0)	29 (33.3)	P = 0.079
Others	36 (8.0)	7 (5.6)	3 (3.4)	
Average income				
Less than 20000	302 (67.3)	98 (79.0)	60 (69.0)	$X^2 = 9.195$;
20000 – 49999	109 (24.3)	18 (14.5)	17 (19.5)	DF = 6;
50000 – 79999	21 (4.7)	5 (4.0)	4 (4.6)	P = 0.163
80000 +	17 (3.8)	3 (2.4)	6 (6.9)	
Educational Level				
No formal education	22 (4.9)	12 (9.7)	6 (6.9)	$X^2 = 11.825$;
Primary	22 (4.9)	8 (6.5)	6 (6.9)	DF = 6;
Secondary	94 (20.9)	29 (23.4)	28 (32.2)	P = 0.066
Tertiary	311 (69.3)	75 (60.5)	47 (54.0)	
Marital Status				
Single	191 (42.5)	56 (45.2)	33 (37.9)	$X^2 = 3.666$;
Married	247 (55.0)	65 (52.4)	49 (56.3)	DF = 4;
Divorced/widowed	1 (2.4)	3 (2.4)	5 (5.7)	P = 0.453
Spousal Education				
No formal education	176 (39.2)	58 (46.8)	33 (37.9)	$X^2 = 5.286$;
Primary	17 (3.8)	4 (3.2)	3 (3.4)	DF = 6;
Secondary	63 (14.0)	9 (7.3)	12 (13.8)	P = 0.508

Tertiary	193 (43.0)	53 (42.7)	39 (44.8)

**Significant at $p < 0.05$; DF = degree of freedom; X^2 = chi square*

While there was a significant relationship between gender and perceived knowledge of the causes of BC, there are no statistical significant relationship between age, religion, ethnic group, occupation, average income, educational level, marital status, spousal education and perceived knowledge of the causes of BC. This also means that age, religious affiliation, membership of a particular ethnic group, occupation, income level, marital status, and spousal educational level did not determine whether a respondent perceived social factor or biological factor or environmental factor as a cause of BC.

Despite the fact that age, religion, ethnic group, occupation, average income, educational level, marital status and spousal education were not statistically significantly related to perceived knowledge of the causes of BC, there were great variations in the proportions of respondents by perceived knowledge of causes across all categories of socio-demographic variables. For example, there were more proportions of respondents who indicated that BC was related to social causes, followed by those who signified that BC was related to biological causes and environmental causes.

On religious affiliation, the proportions of adherents of Christianity seemed to be higher than adherents of other religions. On the occupation status, the proportions of those in the categories of employed and self-employed were more of social factors, followed by biological factors and environmental factors. Similar patterns were observed across all other socio-demographic characteristics suggesting that although there was no statistically significant relationship between some of the socio-demographic variables and perceived knowledge of the causes of BC, disparities existed by categories of perceived knowledge of the causes of BC.

In order to determine the predictive influence of perceived knowledge of breast cancer among the study population, logistic regression was used to determine the predictive influence of perceived severity of breast cancer (BC), who is at risk of BC, risk factors of BC, the perception of how BC is spread or contacted, and selected demographic variables on perceived knowledge about BC as represented in models 1, 2, 3 and 4 respectively.

As revealed in Table 4.9, model 1 examined the predictive influence of perceived knowledge of BC, BC as a cause of death and the kind of relationship a respondent had with the affected relations. The model shows that there is significant association between perceived severity of BC and perceived knowledge about BC. Those who perceived BC as very serious are 9.2 times more likely to perceive the knowledge about BC symptoms than those who did not perceive it as serious health condition. Those who perceived it as serious are 9.5 times more likely to perceive the knowledge about the symptoms of the health condition than those who did not perceive it as serious condition. In this model, although the relationship between affected people and respondents had no significant relationship between perceived knowledge about BC symptoms, there is significant association between the perception that is a cause of death (OR=0.609, $p<0.05$) and knowledge about BC. This follows that the magnitude of perceiving BC as serious health condition is a critical factor in determining the knowledge about the symptoms of BC.

Further analysis in Model 2 included 'who is at risk of BC' and the 'risk factors of BC'. At model 2 however, the magnitude of perceived severity of BC dropped significantly with not serious (OR=3.299, $p<0.05$), serious (OR=4.510, $p<0.05$) compared to the first model, while perceiving promiscuous women as those who is at risk of developing the condition (OR=1.777, $p<0.05$) and the risk factors such as lifestyle (OR=1.798, $p<0.01$), nutrition (OR=2.442, $p<0.01$), genetics (OR=2.351, $p<0.01$) were significantly associated with perceived knowledge about BC symptoms. These means that there is a decrease in the predictive influence of perceived severity of the condition at the inclusion of those who are at risk of developing the health condition and perceived risk factors of BC and perceived knowledge about BC symptoms.

At model 3, the categories of how one can get or contact the health condition was added to the previous variables included at model 1 and 2 respectively. The odds of all other variables that were hitherto significantly related to perceived knowledge about BC symptoms decrease significantly.

For example, the odds of very serious health condition (OR=3.299, $p<0.05$), serious health condition (OR=4.161, $p<0.05$), lifestyle (OR=1.638, $p<0.05$), nutrition (OR=2.356, $p<0.05$), genetics (OR=2.220, $p<0.05$) dropped while those who perceived that promiscuous women were at risk (OR=1.887, $p<0.05$) rose. In spite of these, the categories of variables that were significantly related to perceived knowledge about BC symptoms are still found significantly related. Regarding categories of variable on how one can get it included in the model, only individual body development (OR=2.275, $p<0.05$) is statistically significantly related to perceived knowledge about BC symptoms.

Table 4.9: Logistic regression showing an association between perceived severity, affected relations, who is at risk of BC, risk factors of BC, how can one contact BC and perceived knowledge of symptoms

Predictor variable	Model 1 OR	Model 2 OR	Model 3 OR	Model 4 OR
Perceived severity of BC				
Not serious (Ref)	1.000	1.000	1.000	1.000
Very serious	9.227**	3.663*	3.299*	3.723*
Serious	9.467**	4.510*	4.161*	4.417*
BC causes death	0.609*	0.789	0.888	0.876
Affected relations				
Family (Ref)	1.000	1.000	1.000	1.000
Friends	1.085	1.332	1.212	0.995
Neighbour	0.663	0.508	0.555	0.494
Colleague	0.688	0.929	0.758	0.726
Boss/customer	1.067	0.909	0.793	0.806
None	0.713	0.647	0.606	0.548
Who is at risk of BC				
Any woman		1.623	1.624	1.560
Women with family history of BC		1.470	1.569	1.537
Promiscuous women		1.777*	1.887*	1.831*
Elites/educated		1.107	1.022	0.997
Uneducated		1.287	1.267	1.250
High economic class women		1.241	1.376	1.450
Low economic status women		1.351	1.289	1.382
Risk factors of BC				
Environmental pollution		1.533	1.495	1.492
Lifestyle		1.798**	1.638*	1.592*
Nutrition(dietary intake)		2.442**	2.356**	2.456**
Genetics		2.351**	2.220*	2.226*
Supernatural		1.231	1.337	1.343
How can one get BC				
Not known (Ref)			1.066	0.984
Communicable disease			1.941	1.906
Non-communicable disease			0.941	0.980
Individual body development			2.275*	2.181*
Inherited			1.016	1.032
Work of the enemy			0.738	0.743
Occupation				
Unemployed (Ref)				1.000
Employed				0.636
Self-employed				0.680
Others				0.704
Income				
Less than 20000 (Ref)				1.000
20000 – 49999				0.946
50000 – 79999				3.198*
80000+				0.830
Education				
No formal education (Ref)				1.000

Primary	0.306
Secondary	0.506
Tertiary	0.638

Significant at $p<0.05$* $p<0.01$** Ref = Reference category

This suggests that those who perceived that individual body development is the only way one can get BC is 2.3 times more likely to display knowledge about BC symptoms.

At model 4, occupational status, income level and educational attainment of the respondents were included. Although similar trends of statistically significance of variable categories are observed with the previous models (1, 2 & 3), only those with income level N50000 and N79999 were found to be statistically significantly related to perceived knowledge about BC symptoms. For instance, the odds of categories very serious and serious are 3.7 and 4.4 times more likely to have the knowledge about the symptoms of BC than those who perceived it as not serious. Also, those who perceived promiscuous women are risk of BC (OR=1.831, $p<0.05$), lifestyle (OR=1.592, $p<0.05$), nutrition (OR=2.456, $p<0.05$), genetics (OR=2.226, $p<0.05$) and individual body development (OR=2.181, $p<0.05$) were found to be statistically significantly related to perceived knowledge about BC symptoms.

Regarding the socio-demographic variable included in model 4, those with higher income level (N50000 – N79999) are 3.2 times more likely to exhibit greater knowledge about BC symptoms than those with lower income level. Of course, those who earn higher income level are at greater advantage to possess and use modern communication gadgets where information about the symptoms can be disseminated than those with lower income categories. It also follows that, if people are aware of the symptoms of BC, the likelihood of applying preventive measures of the conditions may be high in such population. In the overall however, the degree of predictive influence of the knowledge about BC symptoms has helped to draw insight of the categories of variables that are fundamentally significant to the inference of BC among the study population.

4.4.1 Breast screening as a mode for early detection and diagnosis

Early screening of the health condition is one of the preventive strategies of BC. This study examined the relationship between those who were willing to be screened, place where they intended to be screened and awareness of early screening of the disease. Table

4.10 gave a report that there was a statistically significant relationship between willingness to be screened and awareness of early screening of BC ($x^2 = 466.489$, $p < 0.05$). This means that, the more respondents were willing to be screened, the more they become aware of the disease.

Table 4.10 explained that, being a male or a female, the kind of occupation one engages in, the level of education as well as whether one is married or single largely determined the awareness of early screening of the disease, which was to prevent its spread to other parts of the body.

While gender, occupational status, educational level, and marital status were significantly related to awareness of early screening; age, religion, ethnic group, and income level are not significantly related to the awareness of early screening of BC. Although there are no significant relationship between them and awareness of early screening, there is great variability in the proportions of respondents that indicated that they were aware of early screening of the disease. This also means that some forms of social groups are more aware of the early screening than some other social groups. Put differently, it then suggests that any group of woman is susceptible to breast cancer.

Table 4.10: Relationship between willingness to be screened, socio-demographic characteristics and awareness of early screening/detection of breast cancer among the respondent

	Awareness of early screening of BC		Chi-square; p-value
Variables	**Yes, I am aware (%)**	**No, I am not aware (%)**	
Willingness to be screened*			
Yes, I will be willing	199 (90.0)	25 (5.7)	466.489;
No, I will not	22 (10.0)	414 (94.3)	0.000
Place intended to be screened*			
Hospital	193 (87.3)	25 (5.7)	442.875;
I don't know	28 (12.7)	414 (94.3)	0.000
Socio-demographic variables and awareness of early screening of breast cancer			
Gender*			
Male	326 (74.3)	0 (0.0)	324.297;
Female	113 (25.7)	221 (100.0)	0.000
Age			
Less than 19	4 (1.8)	19 (4.3)	7.675; 0.104
20-29	65 (29.4)	128 (29.2)	DF = 4
30-39	63 (28.5)	151 (34.4)	
40-49	63 (28.5)	93 (21.2)	
50 plus	26 (11.8)	48 (10.9)	
Religion			
Christianity	158 (71.5)	281 (64.0)	4.085; 0.130
Islam	62 (28.1)	153 (34.9)	DF= 2
Traditionalist	1 (0.5)	5 (1.1)	
Ethnic group			
Hausa	0 (0.0)	5 (1.1)	3.112; 0.375
Igbo	19 (8.6)	36 (8.2)	DF = 3
Yoruba	191 (86.4)	370 (84.3)	
Others	11 (5.0)	28 (6.4)	
Occupational status*			
Unemployed	19 (8.6)	72 (16.4)	17.807; 0.000
Employed	116 (52.5)	164 (37.4)	DF = 3
Self-employed	76 (34.4)	167 (38.0)	
Others	10 (4.5)	36 (8.2)	
Income level			
Less than 20000	147 (66.5)	313 (71.3)	2.139; 0.544
20000-49999	55 (24.9)	89 (20.3)	DF =3
50000-79999	11 (5.0)	19 (4.3)	
80000 plus	8 (3.6)	18 (4.1)	
Educational level*			
No formal education	5 (2.3)	35 (8.0)	26.842; 0.000
Primary	8 (3.6)	28 (6.4)	DF = 3
Secondary	34 (15.4)	117 (26.7)	
Tertiary	174 (78.7)	259 (59.0)	
Marital status*			19.851; 0.000
Single (not ever married)	68 (30.8)	212 (48.3)	DF = 2
Married	143 (64.7)	218 (49.7)	
Divorced, widowed, separated	10 (4.5)	9 (2.1)	

**Significant at $p < 0.05$; DF = degree of freedom*

Similarly, there is a statistically significant relationship between place intended to be screened and awareness of early screening of BC (x^2 = 442.875, $p < 0.05$). This implies that the more respondents in the community intended to be screened at the hospital, the more they become aware of early screening of the diseases. However, there are some reasons why most of the respondents indicated that they were not willing to undergo breast screening. These included the following: they do not pray for it, because they do not have it, while some stated that God forbid.

By inference, if the women population knows about breast screening, they should be more proactive about their health, and discover early cancer before it spreads. However, attempting to factor in the relationship that could exist between socio-demographic variables and awareness of early screening, gender (x^2 = 324.297, $p < 0.05$), occupational status (x^2= 17.807, $p < 0.05$), educational level (x^2= 26.842, $p < 0.05$) and marital status (x^2= 19.851, $p < 0.05$) are significantly related to the awareness of early screening of the disease. Furthermore,in table 4.10, the male population(74.3%) were more aware about the early breast screening than the female counterpart(25.7%), which implies that the male gender could be more instrumental in sensitizing the women folks around them such as their wives, daughters,sisters, mothers about the need for early breast cancer screening.

4.5 Breast Cancer Diagnosis and Treatment and how it affects several aspects of Spousal Relationship

The life experiences of the participants were probed into, to know how the diagnosis and treatment of breast cancer had affected their spousal relationship. In order to achieve this, the ENRICH marital satisfaction scale, Fowers and Olson (1993) was adapted to reflect the major themes and aspects of a typical and functional spousal relationship. In relating this to the health challenge, the themes were used to probe the WLBC and their spouses. Responses from the interview showed that the diagnosis and treatment of breast cancer affected the various aspects of spousal relationship. These are discussed below:

4.5.1 Personality Issues

The concept of personality for the purpose of this study was defined as the habit, disposition, character and the understanding trait of either the man or the woman which was exhibited within the spousal relationship. Applying this concept of personality, it was summarily termed ‘understanding each other’, to appraise the spouses in relation, to how the ailment had affected the spousal relationship. There were diverse opinions and responses which were elicited from both partners.

As different individuals had different upbringing, backgrounds, exposures and experiences, which reflected in the disposition of either of the partners, most especially in the face of the present health challenge. Individuals who had positive and pleasant dispositions to life, and also otherwise affected how they reacted to issues during the diagnosis, treatment and even post treatment phase of the relationship. The participants had different definitions and presentation of personality and how they perceived their partners, which are narrated below:

> We understand ourselves perfectly. His behavior has changed, it is better than before, because when we first got married, we needed to study each other because of our different family backgrounds. The moment he heard about my health situation he made his behavior to better, so that I wont be thinking (**IDI, WLBC, Age 37, Post-Treatment).**

In the opinion of one affected participant, she described her spouse as very supportive in taking care of her. As she explained:

> I don't know how to thank him or what to say per say about that question you just asked. This is because, even for an outsider to see how good and supportive he was then, it so serious! He really stood by me, catered for me, to the extent that people around, like the nurses in the ward I was admitted into during surgery, they all saw it. Therefore, his personal characteristics and personal habits to me when I was confronted with breast cancer, was okay by me (**IDI, WLBC, Age 47, Post-Treatment).**

Furthermore, the attribute of understanding in the concept of personality, was revealed to be that the men often displayed a high level of maturity. This was achieved by coming to terms with the health state of the woman, and also by trying as much as possible to avoid anything that would cause quarrels or misunderstanding between the partners, as it is narrated below:

> We understand ourselves perfectly, though, there is no way that a husband and wife would not have misunderstanding, only that it should not be always. So, in our own case, most times understanding ourselves perfectly (no quarrels) is more than our misunderstanding. His characters are still okay by me, only that men cannot do without behaving funny and acting like men, but still I can still see that the love is still there **(IDI, WLBC, Age 47, Post-Treatment).**

In defining the attribute of understanding the personality of each other, the partners recorded that it was quite difficult to appraise their partners, because none can absolutely please the other, as it was narrated below.

> No couple can say they understand themselves 100%, as we know that no matter how men perform their roles and duties as husbands, women will still be women. I can say it loud and clear that we understand ourselves 70% (**IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**

On another note, the understanding and accepting each other's personality was a difficult thing, as they had to live with each other despite their mannerism, even in the face of the health challenge, as there is nothing that could be done to change the personality. This is corroborated by this narration:

> There is nothing one can do with one's spouse behaviors once one is married to him **(IDI, WLBC, Age 40, Post-Treatment).**

The husbands (spouses) had varying attributes to their wives' personality. The men said they tolerated their wives, because women were considered as the weaker gender. With the emergence of the health challenge (breast cancer), the men that reported positive things about their wives, said it without any reservation, while the ones that had issues in their relationship still insisted that they were tolerating their wives, and could still live with the unpleasant disposition of their wives The following were the different personality attributes that were mentioned and the corresponding narratives that described the mentioned personality attributes.

Tolerance:	Before her diagnosis as cancer patient, I used to flare up every time she does anything wrong, but later I realized that we needed to tolerate each other **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**
Good mannered:	Her good personal character and personal behavior added to the reasons why I love her so much. She is a lover of my family members, she takes care of all of them whenever we have contact with them. Whenever she does something painful to me, and I remember the way she reacts or behaves to my family, it does not take me time before I forget whatever she has done to me. Moreover, they all love her too **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**
Suspicious	I am not pleased with her character.When the sickness started, though we so much love each other, but she believed that I also have hand in her sickness. Due to some misunderstanding on ground, I made her to realize that it is not possible for me to cast any diseases on her, because I love her so much .I told her to go to any length for revenge, in case she still believes someone or I is having hand in what is wrong with her.**(IDI, Spouse of WLBC, Age 51, Post-Treatment).**
Submission and Endurance	You know you women do not like to take to correction on time, and you have been told in the bible to be submissive to your husbands. But most times you will first act as if you are the husband. But in other words endurance makes the marriage to be intact **(IDI, Spouse of WLBC, Age 44, Post-Treatment).**
Wicked and stubborn	We all know that women are generally wicked and stubborn; many are goats, anyone who cannot tolerate and persevere cannot deal with women. It is the Quran that curbs me whenever she start hers feminine behaviours and I just overlook it, instead of retaliating or punishing her **(IDI, Spouse of WLBC, Age51, Post-Diagnosis).**
Great attributes	She is a very good woman, if I should stand in the presence of God Almighty, I will tell him categorically that my wife is a good woman, a child of God truly, I so much trust her, very trustworthy, honest, faithful, prayerful, hardworking in fact I don't know how to qualify her again **(IDI, Spouse of WLBC, Age 56, Post-Diagnosis).**

4.5.2 Roles and Responsibilities

These are the roles of being a mother, wife, friend, confidant, support that the woman supposed to play in the home, and more importantly within the spousal relationship. The responsibilities included doing domestic chores, attending to family (nuclear and extended) issues, attending social functions outside the home, going to the place of work, market, taking care of the children, among many others.

Depending on the peculiarity of each family, there were families where partners demarcated distinctive roles and responsibilities to each other based on gender. Whereas some partners engage in any role without any discrimination or overlap. This was achieved by sharing responsibilities together as the situation demand. Below are corroborative narratives:

> She still does all the house chores, but I am the one that caution her not to stress herself, I do not allow her to do house chores again because of her health **(IDI, Spouse of WLBC, Age 45, Post Diagnosis).**

Another spouse also explained that he has been playing his role and responsibilities when he was having a very good job, but when he lost his job the wife started working in order to support the family. As he has said:

> I was in real control of the family finance years back when things were going on fine, then I was an engineer in the banks. I do repair the money-counting machine, but due to merging of banks I lost the contract, and am unable to finance the house alone. My wife then came to my support by working, because before then she was not working, she was only taking care of the children, etc. Since then, we both handle the roles and responsibilities at home now **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

4.5.3 Communication

This section highlighted the general communication pattern between the spouses. Communication is vital in any given type of relationship, most especially in any particular spousal relationship. This is a situation wherein there is adequate and meaningful information sent by the speaker to the listener through a known and proper channel, and the listener also gives a feedback based on the level and understanding of the information received, without any interference (Lunenburg, 2010)

In an existing spousal relationship, communication is a major point for reference. Relating it to the present health challenge, it was through a comprehensible communication means that the diagnosis and treatment processes were conveyed to the WLBC and her spouse. Thereafter they were able to follow the medical instructions, and the couple were able relate to each other on the way forward based on the post diagnosis, pre-treatment and post treatment phase in their relationship.

Particularly in this study, the participants recorded that they had excellent communication pattern with their spouse before the diagnosis. They did not hide anything from each other and they cherished their time together. With the emergence of the health challenge, this had furthermore improved the communication pattern of the spouses. They communicated more and deeply on this health issue in particular, and other things in general. Though they also do have misunderstanding, but they usually settled it during their conversation.

The study also probed into whether the spouses engaged in problem-solving communication with a view of proffering solution, most especially as it related to the present health challenge, which they responded in the affirmative. Below are some narratives that explained the communication pattern and details of the partners.

> He treats and handles me like his junior sister; we communicate a lot. Even after my diagnosis, he has not changed, we still talk and communicate as ever before. He has never lived nor behaved to me badly before, and now that I'm battling the breast cancer, he used to say and call me the way he used to. We also discuss on personal and family problems, and with God's help we usually find solution to them **(IDI, WLBC, Age 43, Post-Diagnosis).**

> Our conversation pattern is so strong, that before he does anything he would have told me. He does not have any secret so to say, and we converse a lot between us. Likewise, I don't keep anything away from him, as well **(IDI, WLBC, Age 47, Post treatment).**

On the issue of having meaningful communication, the spouses also pointed out that, even after the emergence of the health challenge they were still able to discuss on personal and general family problems. Even when they had problems or misunderstanding, they both communicated with a view to proffering solution to them. Here are a few narrations to that effect:

> We do discuss family problems with possible solution, he is the one that use to spare-head it most of the time, being the head of the house with my help often. **(IDI, WLBC, Age 51, Post-Diagnosis).**

> Whenever we are discussing and we have misunderstanding, we are able to settle it amicably and on time, because she is the easy-going type. She is not a harsh woman. Most times whether she is right or wrong, she is the one that will stylishly apologize and settle grievances. Once in a while I make the move to beg or settle our misunderstanding **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

It is also pertinent to note that spouses could live together and not be able to have meaningful communication together. This is a situation wherein they find it difficult to communicate with each other, due to individual differences and misunderstanding (conflict). Thus, with the emergence of the new health challenge, it does not make any meaningful change to their communication pattern, post diagnosis, pre and post treatment. Here is a narration to that effect:

> We do not discuss on family problems as such, because we both have different opinions. We do not normally agree on solution because she does give room for solution in our discussion **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

On a similar situation, a WLBC stated that she finds it difficult communicating with her spouse. She rather prefers praying than talking with her spouse. With this, this is an indication that there would be communication gaps in the relationship, which might not be healthy. Here is a corresponding narration:

> Our communication is very poor, instead of talking I prefer to be praying. **(IDI, WLBC, Age 47, Post-Treatment).**

In a related manner, the study also probed into the aspect of whether or not the spouses communicated with emotive words or called themselves pet names. Generally, in any spousal relationship, the partners have peculiar and distinctive way of expressing love to themselves such as saying: ‘I love you’, and also calling each other pet-names. However, in this study, due to some Yoruba cultural and individual mannerism, some spouses rather call themselves after their children’s names. This can also be attributed to the fact that some individuals find it difficult to express their emotions and love in the public. For instance, a WLBC and her spouse recorded that there was no change in the communication pattern between them due to the health challenge. The sweet words, romantic statements and names that they had been calling each other before the emergence of the ailment still existed even after treatment her are two narrations to that effect:

> Most times he calls me my real name ‘Joke’ or ‘Mum Jessica’ and I call him ‘Gem’ or ‘Mine’**(IDI, WLBC, Age 40, Post Diagnosis).**

> At times I used to crack my brain before I could remember her real name due to the pet name given to her by me, which is ‘DEAR’ **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

In a related manner, some individual find it difficult to call their spouses pet names, also the emergence of the health challenge does not affect the use of emotive or romantic words, here are a few corroborative narrations:

> He does not call me pet-names; we are not used to calling each other with such word. We call ourselves with the name of our children, that is what we are used to **(IDI, WLBC, Age 40, Post-Treatment).**

> He does not have time for such things all he loves best is he daily job, once he has opportunity to go to work, he is alright, we are not used to any affective communication **(IDI, WLBC, Age 50, Post-Treatment).**

4.5.4 Conflict Resolution

Conflict which is as a result of divergent views and opinions, is inevitable in any relationship. However, the involved individuals try as much as possible to communicate the issue and seek solution to the problem. Within the spousal relationship, the day to day activities are bound to result in slight or major conflicts, but it takes matured minds and individuals to resolve it amicably. Relating to this study, while some partners attested to the fact that they usually have normal and usual misunderstandings, which they resolved between themselves before the diagnosis, post-diagnosis and even after treatment. As much as possible, they do not usually involve the intervention of third party in resolving these issues.

Notwithstanding, there were some real issues that erupted/ensued between the partners as a result of the health challenge, and the bone of contention was the financial burden and strain that the diagnosis and treatment of the diseases had placed on the relationship. However, with these emerging conflict issues, the partners still sought for ways of resolving the problems. The narrations below buttressed this:

> As I earlier said, we do not go to my family or his family members for anything we do our things separately as we want it. But now that this breast cancer has emerged, we informed them about it for financial assistance. This really caused problems, as they rained abusive words on my spouse. This usually happens

> whenever we need huge amount of money, without having recourse to all what my husband has been doing or spent before.

How it was resolved:

> I do beg both sides(my family and my husband) to please take things easy for my own sake, after all, it is me that came to them for assistance **(IDI,WLBC, Age 37, Pre-Diagnosis).**

> No conflict or confrontation, apart from this breast cancer experience I am having. My husband complained bitterly about my family, that they were not helping me financially. That, he had been the one spending and he is not finding it easy. However, his complaint was not conflicting or confrontational.

How it was resolved:

> I rose up to my problem, by calling my relatives who could be of help, lo and behold, they all sent me some money to augment what my husband had been spending and there was peace thereafter **(IDI ,WLBC, Age 40, Post-Diagnosis).**

Another source of conflict, as revealed from the study was the refusal of some WLBC to heed to doctor's advice and prescription. This actually generated a fight between the partners, and when the needful was done, peace was reinstated into the relationship. Here is one such narration:

> There is no conflict and the only conflict that evolved was when I refused to undergo surgery in order totally remove the affected breast

To resolve it:

> He reported me to my family member and they intervened, and I had no other choice than to do it, and God took perfect control (**IDI, WLBC, Age 47, Post-Treatment).**

Another point to note, in this study, that caused conflicts is the lack of trust and suspicious among the partners, which could be traced to pre-diagnosis and this lingered to post treatment phase. This eventually led to an unhealthy spousal relationship and this psychologically affected the WLBC and her spouse. To resolve this kind of conflict, there was the need to show more love and assure the partner of absolute fidelity. Below is a corresponding narration:

> There was a fight between us. As a carpenter, I have lots of female customers and she believed that I was having secret affairs with them. To worsen the matter, when the breast cancer case became worse, she believed that the women am having affairs with were behind her sickness, and I have never betrayed her for once **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

In some reported spousal relationship, the major source of misunderstanding was the issue of finances, wherein, initially, they were not financially buoyant. With the emergence of the disease, serious rift erupted between the partners because of their inability to meet up with the financial demand of the diagnosis and treatment. Here is a narration from a participant:

> Our crisis is centered on financial issue, I always talk about it, but he refused to assist, I cannot kill myself **(IDI, WLBC, Age 49, Post-Treatment).**

4.5.5 Financial Management

In this study, financial management within the spouses is the ability to prudently manage the income that comes into the family, and optimally maximize it for family members. The income that comes into the family is being used for short-term, medium-term and long-term projects, and even to take care of unforeseen contingencies. Breast cancer can be viewed as an unplanned event that faces the family and majorly the finances. Below are the various avenues wherein the women living with breast cancer was able to financially take care of the ailment:

(i) Loans

In discussing this issue, some families that had obtained loans to undertake building projects had to divert the money for the care of the woman. Some even sold their properties, which resulted in the family lagging behind developmentally. Here is a narration to that effect:

> Our purse has been affected negatively because, before we came to UCH where the truth and right treatment was carried out, we have been to many places where lots of money had been spent. Right now, we are on loan that is being re-paid

> every week with interest, it has really affected us and many things in the family. Let me be honest with you, breast cancer disease is not a common man disease at all **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

From the view of another spouse, it was explained that he was the one in charge of all the expenses of his wife's care. He earlier took a loan which was not used for the purpose it was taken for, instead it was diverted to the care of his wife. Below is his statement:

> For the very first time in my life, I obtained loan twice without utilizing it for the purpose of obtaining it. When she started her diagnosis and treatment of this breast cancer, I paid for every test and treatment, and with the help of friends, fellowship member, and our families she was able to continue her treatment when things started failing financially on my part **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

(ii) National Health Insurance Scheme (NHIS)

The health insurance was being provided by the government to reduce the cost of medical expenses, and to improve access to medical facilities, though it has its area of coverage. Similarly, for working class participants, whose places of work had these provision, the scheme assisted the WLBC in accessing health facilities. Here is a corroborating narration:

> We were really helped through NHIS programme for her treatment, and for the treatments that NHIS could not cover, we looked for money to pay for them **(IDI, Spouse of WLBC, Age 44, Post-Treatment).**

(iii) Pension and Gratuity

These entitlements were supposed to be enjoyed after retirement from a successful service at one's place of work. Rather, some participants had to use this pension and gratuity to pursue their wellbeing. Here is a corresponding narration:

> It is my spouse and I that has been paying for every treatment. Now that I have retired, I am being paid pension monthly, but the government is till owing me the gratuity. So we are both paying the bills till date **(IDI,WLBC, Age 57, Post-Treatment).**

(iv) Husband and Wife (Joint account)

This is a situation where in both partners contributed to the financial upkeep of the family. In a situation wherein there is the breast cancer challenge the husband and wife arise to this problem together. Below are attestations from some of the participants:

> Both of us are great contributor financially in our home, she is so great that whenever she gets her salary, she will surely release it for the up-keep of the home, and the same thing happens to me **(IDI, Spouse of WLBC, Age 33, Post-Diagnosis).**
> Both of us have been rendering our role financially as husband and wife, father and mother in our relationship. No lapses at all, everything is fine, he used to spend at home more than me, he pays for the school fees, feeding, clothing, etc. He is not an 'ordinary father or ordinary husband', he is very responsible financially **(IDI, WLBC, Age 51, Post-Diagnosis).**

> From the day one of our marriage, we do things together financially, he gives his own portion while I add my own **(IDI, WLBC, Age 57, Post-Treatment).**

Another participant in her own opinion stated that she only provides supports for her husband, if not, the husband has always been in charge of everything in the family. As she opined:

> It is my husband that finances the home, he provides for nearly everything needed, food, shelter, clothing, school fees, etc. Although, I do assist, because it is compulsory for wives to help their spouses financially. Due to economy status of the country, we need to work in synergy when it comes to financing the home. However, he contributes more than I do **(IDI, WLBC, Age 37, Post-Diagnosis).**

(v) Separate Account

Some spouses do not believe in having joint account, but every individual in the relationship usually contributes to the well-being and smooth running of the relationship. Here is an accompanying narration:

> If he has money he drops it, and if I do, I drop it, at least we are no more two but one. Nothing much is attached or called joint account, in as much each partner brings money home and gives all he/she has to the family. At least if the money is put in the same purse, it will be spent on family members, even if the money is kept differently, it also spent for the family. Though, I do not like joint account because I have seen and heard men cheating their wives over it **(IDI,WLBC, Age 49, Post-Treatment).**

(vi) Husband Only

However, when the situation arose in the relationship that the WLBC became incapacitated due to the effect of the treatment, the husband became the major financier of the family and the post-treatment care of the woman.

> He is doing his best according to what he has financially and I have been of help to the family financially too. Though, I have not been working again due to the illness, thus, I cannot help again financially, he is the one doing it alone **(IDI,WLBC, Age 50, Post-Treatment).**

Another dimension to the reason why most men wanted to be responsible for their wives was because they do not want her to be seeking financial help outside the home. As it was narrated by a husband:

> It is my duty to take care of every member of the family as a responsible father and husband, in as much I don't want her to go out and fornicate. If a husband is not taking care of his wife properly, she might use what she has to look for what she does not have, so I do not want my wife to do that **(IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**

Furthermore, as a result of the love and commitment between the partners, the husbands were ready and willing to go all out to see to the wellness and wholeness of their wives. Also as a sign commitment to spousal vows, such husbands were ready to spend and to be spent, as this was narrated below:

> Presently, I am on a 3-3 month's treatment appointment and my spouse is still ready to bear the bill of for my treatment. God has been so good since I started the treatment, He has been providing for our needs. My husband has said that he will try to source for money by all means for my treatments **(IDI, WLBC, Age 49, Post-Treatment).**
>
> He is at my side promising to keep spending until am finally okay, because he said he does not want my situation to get worse **(IDI, WLBC, Age 40, Post-Diagnosis).**

4.5.5.1 Cost of Diagnosis and Treatment

Considering the cost attached to diagnosis and treatment regimens of breast cancer, some women after they were given the cost implication of the different procedures at their first visit at the clinic, did not bother to repeat their visit as booked by the physician. While some of them that were able to gather funds for the diagnostic tests and started the first treatment procedure such as chemotherapy but did not return for subsequent treatments. This of course affected the success rate of the treatment administered, and the eventual survival of some of the patients.

In the course of the study, while interacting with the patients that came to the clinic, it was observed that a lot of them had financial challenges, and usually resorted to family members for financial assistance. This was after when the WLBC and her spouse had exhausted their own available financial resources. Here is a corroborative narrative:

> He was the one paying for everything before, with the addition from what I had then. But now he cannot foot the bill alone again due to high cost of test and treatment, so my family members have been contributing to it **(IDI, WLBC, Age 37, Pre-Treatment).**

4.5.5.2 Involvement of family and social network in the financial burden

As some WLBC and their spouses were not able to bear the financial burden, their family members and some social networks of the WLBC and spouse were available to assist in so small measure. This was done primarily to alleviate the financial stress, to support and encourage the affected individual and more importantly to prevent the death of the WLBC by contributing to her treatment. Below are some narratives:

> It is my husband that is paying for most of the test and treatment with the help of my family members that are aware of my sickness **(IDI, WLBC, Age 47, Post-Treatment).**

> As I earlier said, my husband was the person that has been spending, then help came from the Managing Director of my work place, my family members also assisted. The Rev. father of my church also really tried for me too. My gratitude goes to my husband, had it been he did not stay by me, others would not have railed round me and helped **(IDI, WLBC, Age 40, Post-Diagnosis).**

4.5.6 Leisure Activities

The leisure activities probed in this study included the things done and enjoyed together by the spouses, such as eating, sleeping, bathing, going out together, wearing the same cloth for social function, and the like. These activities were probed into to describe how the diagnosis and the treatment of breast cancer affected this particular aspect of the spousal relationship.

From the various responses, some spouses did not do or share things in common, which however does not mean that, they were not cordial in their relationship. Thus, with the emergence of the breast cancer in their relationship, there was no change to the existing leisure activities.

On the other hand, some spouses had always shared things in common in their relationship. While some partners in the study revealed that before the diagnosis of breast cancer, they shared many things in common, and as a commitment to their vows and love, there was continuity in all that they did, even after treatment. It was also noted that their love waxed stronger. Therefore, the emergence (diagnosis) and treatment were no a hindrances or limitations to being together and enjoying the company of each other. Below are responses to ascertain the above observations in the study:

> We do not eat together due to his time schedule for work, every other thingis done in common with love. Nothing, absolutely nothing has changed, the love he has for me has not diminished **(IDI, WLBC, Age 43, Post-Diagnosis).**
>
> We are used to all those things (sleep, bath, eat, go out together)before she was diagnosed of breast cancer. Even after the diagnosis, we had to do it more, especially by me in order to show her that I still love her despite her illness. Sincerely, nothing has changed in our leisure activities. Rather, our love has deepened the more and I just want to let her know that I still love her **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis)**
>
> There are no changes in our leisure activities before or after diagnosis of breast cancer, we do everything together except going for social functions. She is not a party lover, only if I force her to attend or the celebrant is very close to her, that is when she attends the party. One thing I also know she likes doing best is attending church activities, she goes to almost every service or programme. She also sews very well. She likes to sew clothes for her customers, but now due to the health challenges, she does not have strength to sew again **(IDI, Spouse of WLBC, Age 56, Pre-Diagnosis).**

Worthy of note is that beside the presence of breast cancer which could mitigate the ability to have and enjoy leisure times together, some participants reported the presence of some extraneous factors such as nature of job, type of house occupied, presence of children, which posed threats to their leisure activities. The narrations below shed more light on these factors:

> We do most things together especially going out together. We do not bath together because he does not usually stay at home due to the type of job he is doing. Also we cannot bath together because of the presence of our children **(IDI, WLBC, Age 48, Post-Diagnosis).**

> We eat together, sleep together, go out together once in a while but we don't bath together because of where we are living, It's a 'face me and face you apartment' **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

> We don't do things together due to our work schedule, but when there is holiday like this, we eat together and sleep together all the time **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

Some were able to deduce that their love waxed stronger and they got fonder of each other as they did and shared things together:

> We do everything mentioned above as part of our leisure activities, and even our love grew stronger **(IDI, WLBC, Age 49, Post-Treatment).**

> We are used to those things mentioned as part of our leisure activities especially going out together, we are so fond of it so much **(IDI,WLBC, Age 40, Post-Diagnosis).**

4.5.6.1 Changes in leisure activities

Changes in leisure activities, refers to a shift from the assumed and acceptable normal way of enjoyment for the partners before the diagnosis of breast cancer. However, at the diagnosis, through the treatment and post treatment phase, there were recorded instances of changes in the leisure activities performed together. This was observed in the narrations below:

> We do all sorts of things together as part of our leisure activities except bathing together. This is because when she was working our schedule was almost the same time, but now time but now that she is sick and no more working, she wakes up late while I must have bathed and gone to work **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

A change of leisure activity worthy of note is the spouse that reduced the time spent in viewing football in order to be around the wife to show love and concern:

> We do all things together before, but it is bathing together that has changed. We just discovered that we do not bath together again, maybe due to familiarization. I also enjoy watching football at viewing centre, I can go out on a Saturday by 12 p.m and come back home by 8p.m., but now because of her, I have stopped going for longer period of time. What I do is to just go and come back to look after her often and make sure she is in good condition before going back again **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

Though some spouses might not actually want to change their mode of life most especially their leisure activity, they had to change due to the presence and the severity of the sickness. But in actual sense, they are the ones that defined the severity and extent of the ailment, as narrated:

> We only sleep together because he has no choice, but every other thing is not done together again because of the severity of the ailment **(IDI, WLBC, Age 37, Pre-Diagnosis).**

In addition to the above mentioned, due to the dietary prescription given to the WLBC, the partners did not eat together again, which was formally practiced in the relationship. Here is an accompanying narration to show a change in leisure activity of eating together:

> Nothing has changed as such, only that we do not eat together most times again. This is due to some changes in her diet which is according to medical advice **(IDI, WLBC, Age 47, Post-Treatment).**

4.5.7 Sexual Relationship

For the purpose of this, community members, spouses (WLBC and her husband) that were in the age group of 18 to 60 years were believed to be sexually active, were purposively selected. As a preamble,it was expected that in a normal spousal relationship, both partners engaged in and enjoyed sexual activities on a regular basis based on the health of the partners. Therefore, sexual relationship is the intimate expression of love and passion between male and female (partners), through the stimulation of the sexual genital organs (Schober & Pfaff, 2007). As a matter of interest to this study, the stimulation of the breast of the woman, being an erotic organ for the sexual pleasure of both partners was discussed.

In this study, the participants reported that they usually enjoyed the stimulation of the breast during their sexual activities. Consequently, as a result of playing with the breast, the man was the first person to notice a change in the wife's breast. This was a good sign of an healthy spousal relationship, of which both partners were able to navigate their physical body during sexual intimacy and were able to discover an abnormality. This process, as the researcher would term it, is: 'sex-induced diagnosis' or 'lover's self-breast examination'. Below are some of the applicable narrations:

> If not that I used to play and touch it often, we wouldn't have known, because she did not know herself. She said she thought that, that is how the breast would be hard a bit, because no baby had sucked it before **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

In a further expression of sexual relationship between the husband and the wife with the breast, it was narrated by a participant that:

> He loves it so much especially the bigger one that is affected, but now that the one he likes is affected, he has jumped to the other one **(IDI, WLBC, Age 43, Post-Diagnosis).**

4.5.7.1 Sexual Activities

In this aspect of the study, the partners were asked about their sexual activities before the diagnosis of the ailment and majority of the participants reported to have had a hitch-free sex life experience before the diagnosis of the ailment. As revealed in the study that every living thing has the inborn natural instinct and urge to have sexual relationship. This is usually triggered by an urge, and often expressed through sexual intimacy with the opposite sex. As described by a participant and as said in Yoruba, ***'ko se fi si ara ku',*** which can be translated to be 'one cannot submerge and kill the urge to have sex forever', it must be must be expressed with one's partner. Here is the accompanying narration:

> As we all know that sexual urge can never be hidden in the body (**Yoruba: 'ko se fi si ara ku'),** and in as much one is not having extra marital affairs one needs to enjoy himself at home sexually with his wife. By so doing I use to request for it often and she does not usually say no, as she knows very well that I don't have any other woman outside our marriage **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

> Before the diagnosis of my breast cancer, we used to have sexual intercourse like any other couple **(IDI, WLBC, Age 43, Post-Diagnosis).**

As a common experience among married partners both parties try as much as possible to satisfy each other sexually. From the study, though the health issue was a major challenge, but the couple had to go as far as the health challenge could permit them sexually. Here is a similar narration:

> Mummy is trying her best to satisfy me whenever I request for it even up till now that she has been diagnosed with breast cancer. There is no way one would not fight over such issue once in a while but it does not last long. We used to settle it on bed **(IDI, Spouse of WLBC, Age 44, Post-Treatment).**

A spouse gave an analogy of their sexual experience that 'when one is rich, one can freely give, but when one becomes poor, one cannot give what one does not have'. This is the scenario of their sexual experience, that while the wife was healthy she freely gave sex, but as she had become sick, she could no longer perform this duty satisfactorily. Below is a full narration;

> When someone is seriously rich and not a miser, he/she gives out generously, but when such a person turns to a poor person he/she will not be able to give as he/ she used to give. Not that the person does not wish to give, but mind you, he/she does not have it. That applies to my wife, before her breast cancer diagnosis, our sexual relationship was superb. Now that she is having breast cancer, she is not as good as she used to be. Not that she does not want to have sex, but her health does not permit her **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**

In another narration from a participant who observed a change in their sexual experience after the diagnosis, she added that she was scared of her husband becoming infected during sex, and this always comes on mind anytime she wants to have sex with her husband. As she stated:

> Before the diagnosis of breast cancer our sexual relationship was good and fun, there was no time we quarreled or had misunderstanding over it, but when the breast cancer challenge came-up, it was not like what it used to be again. It was out of pity that he released me, not that my condition is so bad, only that he does not want to trouble me. Likewise, I don't even feel like having sex as there is a

> thought that used to strike my mind, and the thought is that my husband might be infected if he has sex with me **(IDI, WLBC, Age 57, Post-Treatment).**

While assuming that spouses in a relationship would engage in sexual activity, during the survey some participants reported that they tolerated sex in their relationship even before the diagnosis of breast cancer. This was attributed to the fact that the partners were not well disposed to sexual intercourse. Therefore, the emergence of the disease was not a contributory factor to their sexual involvement or abstinence. Here is a supporting narrative:

> Sexual relationship in my marriage is not too okay by me, but I have learnt how to tolerate her by force. When we first got married, we used to quarrel over it so much because my wife is not the type that likes sex. But as we grew in age of marriage I tolerated her, and have her whenever she agrees. Lately, she has been considerate of me too **(IDI, Spouse of WLBC, Age 33, Post-Diagnosis).**

4.5.7.2 Challenges to sexual activities

In discussing some challenges to sexual activities in the spousal relationship, there were different highlighted factors that some partners in the study pointed at. For instance, there were some wrong information or myth about breast cancer such as, that any woman that has breast cancer should not have sex and enjoy the privileges of spousal relationship.

In a related manner, another factor that affected sexual relationship of partners was the level of exposure to social groups, books, childhood upbringing, amongst many others. Also, worthy of note was that, age was not a factor to being exposed to sexual activities, as this was corroborated by this narration:

> My wife is not exposed as such, let me '*kuku'* say it the way it is, 'she is not exposed at all'. To the extent that when we got married, she was 40 years and she was still a virgin. I had to explain a lot of things to her sexually, and not that I was promiscous before marriage. I was only a little bit more knowledgeable than her, so our sexual relationship is a bit poor. I read books on it a lot and meet Christians friends on it **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

Another challenge as addressed by the participants was the demand of the job that spouses engaged in, which affected the enjoyment derived from sexual activity. Here is corroborative narration:

> It is the nature of my job that is creating a vacuum in our sexual relationship. She knows I do not have anyone outside, but the job is stressful. I would have been knocked out before getting home in the evening, making it difficult for me to 'ride another car at home sexually'. Moreover, the situation in the country has worsened the situation **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

4.5.7.3 Sexual Attractiveness

In this study, sexual attractiveness referred to the level of appealness and acceptability of both partners to have each other, sexually. This attribute was displayed and demonstrated by the appreciation of the physical features of the male and female genital organs. More importantly, for this study, the breast of the woman was considering the center of attraction for the male.

While probing the participants, the men stated that before the diagnosis, their wives were sexually attractive to them. Despite the health challenges, the women were still sexually appealing and attractive to them. On another note, the assertion of attractiveness being used as a form of encouragement for the woman and to reinstate the spousal vows and commitment made to each other, was therapeutic. Here is a narration to corroborate the sexual attractiveness:

> In as much as she still alive, she will be sexually attractive **(IDI, Spouse of WLBC, Age 33, Post-Diagnosis).**

Interestingly, some men still found their wives sexually attractive despite the fact that one of the breast had been scrapped off, and that the unaffected breast was still a centre of attraction. Below is an attesting narration from a spouse:

> She is very attractive, because I cannot see any changes in her beauty and she still performs as usual on bed **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**
>
> She is still attractive to me. In fact, if you saw her a few weeks ago, you will definitely say she is not passing through any health challenges. She is still pretty and whenever we make love, she is okay by me. I still enjoy her **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**
>
> Despite the fact that one breast has been scrapped, I will continue to play with the only breast left, unless she says she is not interested in having anything to do with me sexually **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

A WLBC gave the testimony that her spouse still found her more attractive than expected. This statement had a positive influence on the psyche of the woman, which had resultant therapeutic effect on the woman. This is narrated below:

> I know that I am still sexual attractive and I know this through his behavior towards me. He even says it out at times, thanking God that I look more beautiful than expected **(IDI, WLBC, Age 40, Post-Diagnosis).**

4.5.7.4 The Person that initiates sex

Ideally, sexual activity is supposed to be enjoyed by both partners, and either of them can initiate it. The participants posited that both the spouse and the WLBC could initiate the act, whenever there was the urge. The narrations below support this:

> Anyone who feels like having it usually initiates the sex, but mostly it's me **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

> Most times, both of us. But anyone that has the urge will ask for it **(IDI, WLBC, Age 57, Post-Treatment).**

From the study, while probing further, the women lay more emphasis on the fact that their spouses more often than not initiated sex in their relationship. This was recorded as part of their experiences (pre-diagnosis, pre and post treatment), as narrated below:

> He is the one that initiates the sex. The reason is that I don't usually have the urge **(IDI, WLBC, Age 43, Post-Diagnosis).**

> It is my husband always, not me, I have never initiated it in my life **(IDI, WLBC, Age 37, Post-Diagnosis).**

> He is the one that initiates sex. I have never initiated sex before. This could be attributed to my type of nature. I must confess, that, I am not good at that, he is the initiator all the time **(IDI, WLBC, Age 48, Post-Diagnosis).**

In some cases, wherein the couple were receiving fertility treatment, whether or not the man initiated the act, the woman who was more particular about giving birth to children usually initiates the sexual act, as this is reported below:

> There was a time when there was anxiety over the issue of infertility. That was third year into our marriage, we then visited an Obstetrics and Gynecology Specialist Doctor concerning the issue. So whenever we were given as our fertile

> period, that would be the time when she would be disturbing me for it. In situations when I would be busy sleeping after a tedious day's job, she would not take it easy with me if I did not answer her. But asides from that period, she does not initiate sex, due to her belief that,' what will people say when they hear that it is the wife that summons her husband to bed for sex' **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

4.5.7.5 Frequency of Sex

The frequency of sex in this study relates to the number of times both partners copulated in a day, week, month, year or throughout their lifetime. From this study, the frequency of the sex activity of the partners hinged on some factors such as the nature of the job of the spouses, the location of their jobs (whether they lived together or separately because of the job), and the stress from their jobs. Some participants were able to give an estimate of the frequency of sexual relations. This is presented in the narration below:

> My husband is not living with us due to the nature and location of his job, but whenever he comes home, before going back to his station, we can have sex twice during that weekend. But now that we are staying together, he might not touch me in a week, and we might have it throughout the week depending on his mood **(IDI, WLBC, Age 40, Post-Diagnosis).**

A participant who said they made love three times in a week in her words said:

> Like thrice in a week before breast cancer and like twice in a week with breast cancer **(IDI, WLBC, Age 49,Post-Treatment).**

This participant stated that they made love as soon as nature demands:

> Often as our nature demands **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**

To this participant, they had it about seven to eight times in a month:

> Seven to eight times in a month **(IDI, Spouse of WLBC, Age 33, Post Diagnosis)**

It is noteworthy and commendable to know that some spouse did not let the ailment affect their sexual life. When probed on the frequency, a WLBC narrated that:

> Like thrice in a week before breast cancer and like twice in a week with breast cancer **(IDI, WLBC, Age 49, Post-Treatment).**

While probing further, another factor that was revealed to be affecting the frequency of sexual intimacy among the spouses was their religion, as narrated by a husband to a WLBC:

> We Muslims do not have limitations when it comes to sexual activities with our wives, we can have it at any time **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

On a similar note, despite the challenges being faced with the treatment effect on the woman, it was also advocated that women should always be ready to have sex with their husbands in order to prevent the man flirting around, as also shown in this narration:

> As many times as he wants it, because I'm not having another man in my life and I would not want to send him out **(IDI, WLBC, Age 43, Post-Diagnosis).**

On another note, a participant stated that she could not recall when last they had sexual intercourse maybe due to the period of treatment, loss of sexual urge, amongst many other reasons. Hence, she could not ascertain the frequency of sexual activity in her relationship, as it was narrated below:

> I cannot even remember much about sexual relationship. it's been a while we stopped having it. So it's out of my memory **(IDI, WLBC, Age 57, Post-Treatment).**

4.5.7.6 Libido and Orgasm

With reference to this study, libido is the urge to have sexual intercourse, which differed from one person to the other. While orgasm is the pleasurable height reached by both parties during sexual intercourse. These two phenomena were exhibited in the psyche of either partner in different frequency and quantum, which affected how each got involved, participated and enjoyed sexual intimacy. The participants reported different highs and lows in sexual activity, as described below:

> My libido is high while hers is low, my orgasm and pleasure is also high, but hers is sometimes high or low. At times she plays with me like never before, and some other times she will sleep like a log of wood **(IDI, Spouse of WLBC, Age 33, Post–Diagnosis).**

> I will say her libido is very poor and her orgasm is rigid, her belief is for her to just lie down and I do whatever I want to do with her, and then get up. I have told her several time to change for good, because I don't really understand, well, may it is due to her upbringing **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**
>
> I am okay as a man, very okay, but my wife's libido and orgasm can be rated as average **(IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**

Likewise, from the study, though the women claimed to have low libido, but whenever they were properly stimulated and engaged in sexual activity. They usually have orgasm, which is the ultimate goal of such activity. This is narrated below:

> My libido is a bit poor but my spouses' own is above average. As regards my orgasm, we are both above average when I'm finally pushed **(IDI, WLBC, Age 40, Post-Diagnosis).**
>
> I'm not too good but not poor at all, I do enjoy it whenever it comes up **(IDI, WLBC, Age 47, Post-Treatment).**
>
> My libido is poor, but whenever my spouse makes a move, I make sure my mind is in the act in order to blend with him, and I eventually enjoy it **(IDI, WLBC, Age 49, Post Treatment).**

4.5.7.7 How the health challenge has shaped the nature of sexual activity

The diagnosis and eventual treatment of the breast cancer might or might not affect the sexual intimacy that existed between the man and woman. The treatment might affect negatively or positively the psychology of the woman, the sexual attractiveness of the woman to the man, and the general outcomes of sexual activities.

For this study, as a fall-out on how the health challenge affects the nature of sexual relationship, a spouse wanted to stop having intercourse with his wife. The reason was borne out of pity for the woman, in order not to inflict more pain on her. However, the wife (WLBC) did not take it lightly with him and she took offense. This was due to various reasons and insinuations such as, maybe she felt neglected, she was not feeling loved. She also had the sexual urge which needed satisfaction. Here are corresponding narrations:

> We have not been engaging in sexual activities as such since the time she was diagnosed of breast cancer. I was the one that stopped it out of pity, in order for her to regain strength from all symptoms and treatments of her sickness, but she felt offended to the step taken by me **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**
>
> I've not slept with her now for almost four months, and I deliberately stopped due to the treatment she is having. You know that treatment, especially the chemotherapy uses to weaken her so much, and as a human being, one needs to have human feelings. So I deliberately stopped in order to let her regain her good health, but I'm sure if I should make a request, she would agree to that **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

As this participant explained, the cessation of sexual activities for sometimes and later resume with reasons:

> Out of pity my husband stopped having sex with me when I had surgery and but now that I have overcome the side affects of chemotherapy and pain of surgery, we have started having sex in our usual way **(IDI, WLBC, Age 49, Post Treatment).**

Though the breast is a central erotic organ, it was revealed that some partners claimed that it was the thigh that sensitized the woman during the act. Consequently, the disease had not changed their sexual enjoyment, and they still found sporty areas on the woman's body to make sex pleasurable, as narrated below:

> Well, I don't play as such with her breast when sex is going on, because the weaker part of the body is not her breast but her thighs. So no difference as such to me, with her only one breast left **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

From the view point of the participants, sexual activity and enjoyment was seen as a function of the state of the mind, as the Yoruba would say **'*oju la n do, idi o yato si ara won*'**, that is, it is the face/beauty of the woman that the man engages and enjoys during sexual act, all vagina are the same. Therefore, the health challenge had little or no change on the perception and the value that the man had for the woman. Below are supporting narratives:

> There's has been no changes in our sexual relationship due to her health challenge, we use to have sex whenever we want it. In as much there is no medical advice against it from the doctors who are treating her, according to my wife **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

> I think I am very attractive to him sexually. He usually plays with the remaining breast. It as if it is still two in number! **(IDI, WLBC, Age 47, Post–Treatment).**

Another important issue to point out is how the health challenge had sharpened the sexual activity of the partners. Some women would not want the man to play with their breast, even after the treatment had been successful. The reason for this was that the woman was ashamed of herself. She was also afraid that the other breast might be injured, this is evidenced in this narration:

> He still wants to play with the only breast, but I don't allow him to touch it because I just don't like it. I am always ashamed of it; after all I believe that there is nothing the only breast can do to him in terms of enjoyment when sex is going on. I am also afraid of the only breast not to be injured as well, due to too much of fondling **(IDI, WLBC, Age 40, Post-Diagnosis).**

4.5.8 Child Bearing and Rearing

Discussing this sub topic as one of the elements in an existing spousal relationship, the issue of child bearing as it relates to this study is the ability for the couple/spouses to bring forth their own kind, that is, the ability to produce offspring. On the other hand, child rearing is the process by which the spouses nurture and take care of their young ones from infancy to maturity. For the purpose of this study, spouses that were in the age group of 18 to 60 were purposively interviewed. The age range was considered prime of birthing and nurturing children.

In relation to the objective of this study, which was to examine how breast cancer affected the aspect of child bearing and rearing of affected spouses, this section presents findings on how spouses have handled their responsibilities as mother or father.

With reference to this particular study, most of the participants claimed that they had given birth before the emergence of the health challenge on the woman. The spouses then claimed that the WLBC had still been trying to discharge her role as a mother notwithstanding the ailment.

Some of the couples said that their children were grown-up. Thus, the children could take care of themselves and also assist their parents in doing some chores. Here are some corroborative narrations:

> Am still up to the task, not weighed down totally and thank God my children are grown up to some stages where they can take care of themselves **(IDI, WLBC, Age 47, Post-Treatment).**

> My children are grown up, so they can take care of themselves with the help of God, so now that I'm not fit to do most things at home they are doing them **(IDI, WLBC, Age 50, Post-Diagnosis).**

> To the glory of God, the baby of the family is 19 years, we are no more having babies, neither bearing babies anymore **(IDI, Spouse of WLBC, Age 56, Post-Diagnosis).**

> Thank God my children have been going to school themselves, but I am the one that bathe and cook for them always. My health challenge has not changed anything from me in taking care of my children **(IDI, WLBC, Age 37, Post-Diagnosis).**

As part of child rearing, the men showed high sense of responsibility by assisting their wives with taking care of the home and their children. They claimed that raising child was a collaborative effort even before the emergence of the ailment as narrated below:

> Everything is going on smoothly and as expected, her health conditions has not disturbed her from rendering her duties as parent at home, moreover am of help to her in such responsibility **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**

Consequent on the emergence of the health challenge, a WLBC revealed that she could no longer take up the responsibility of caring for the children. Rather, the partner was responsible for this, as this was narrated below:

> The health challenge is for a while, God will perfect my healing. Before now I have been doing what every good mother should do to her children, always been there for them. But now that the sickness is aggravating, I cannot take care of them as such, and thank God they are grown up a bit so, they take care of themselves with the help of my husband (**IDI, WLBC, Age 37, Post-Diagnosis).**

Relating to the issue of child bearing, with reference to this particular study, for WLBC who were still having children or were yet to give birth, they were optimistic of having children even after the diagnosis and treatment of the ailment. Below is a collaborative narration.

> This sickness has no meaning to me, even I do not see myself as someone that has breast cancer. If someone sees herself as a sick person, it has become a problem. My own is to pray to God, and remind him that he did not create me with this breast cancer. So he should just come and heal me. And by the power of God and His grace of God, I plan to have more children **(IDI WLBC, Age 37, Post–Diagnosis)**.
>
> We have no child yet, but would still have my children **(IDI, WLBC, Age 49, Post-Treatment).**

4.5.9 Family and Friends

In this particular study, the family referred to the blood relations of the partners, who are either nuclear or extended. While the friends referred to individuals who are acquaintances or individuals who had close relationships or bonds with the partners. These identified individuals could either be closely tied to the husband and wife, or they could just be persons that have little or no contributions to the spousal relationship.

Meanwhile, this study sought to examine the role that breast cancer had played in the existing relationship between the spouses and their family members and friends. The role that these individuals played in the relationship before the diagnosis, after diagnosis and after treatment, was discussed in this section.

From the various responses elicited from the participants, majority of them reported that they had cordial relationship with their family members, at the pre-diagnosis stage of the breast cancer, as illustrated below:

> We have always had cordial relationship with my family and her family, and they know about my wife's health situation **(IDI, Spouse of WLBC, Age 52, Post-treatment).**
>
> Very cordial, we are close to each other if they have any social event and it is convenient for me to go, especially convenient in terms of cash I will go and do the right thing, even if my spouse is there or not **(IDI, WLBC, Age 47, Post-Treatment).**

While some had cordial relationship with their family members, some had issues with their in-laws even before the diagnosis of the ailment. Therefore, the friction between them and the in-laws could not be attributed to the health challenge, as this could be attributed to some extraneous factors, as narrated below:

> My relationship with people my family had been cordial except my relationship with my in-laws that is somehow not cordial. The reason was that they initially did not understand me when I first married their daughter, but as time went by, we got to know ourselves better **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**
>
> It is cordial and most of us are friendly with each other, but there are some family members of my husband that we are not friendly with me. You know people differ from each other and there is no way you can satisfy them, still they will not be satisfied. Fortunately, my husband understands that it is not my fault, it is those people's bad behavior that caused it **(IDI, WLBC, Age 49, Post Treatment).**

From the study, the partners also reported that though they had a good relationship with their family member, but they decided to keep the information about the diagnosis to themselves. They claimed that it was not a goodnews to be broadcast. Furthermore, every individual in the family has his or her own personal issues and problems to contend with, and there was no need bothering the family members with their own diagnosis report. Some of the participants also believed that the ailment could be as a result of spiritual attack from the extended family, as such, they would rather keep the information to themselves than be ridiculed by their supposed 'enemies' who are clothed in familial robe. That is, one may only see the face and not the intent of the heart. These are corroborated with narrations below:

> You know what is happening to me is not what everyone should know about because who knows where the problem comes from. If it is thing of joy like giving out of a daughter in marriage definitely everyone would be aware **(IDI, WLBC, Age 37, Post-Diagnosis).**
>
> No contribution as such from my family and friends, as they are not aware of what is going on to my health. Had it been they are aware, am very sure, they would have come to my aid because they all love me. You know such things can not be broadcasted **(IDI, WLBC, Age 57, Post-Treatment).**
>
> Our relationship with the people mentioned is very cordial, they all love us and we love them too. I thought, there was no need of informing them, because no

> one can say who genuinely loves you despite the fact that everyone smiles at you, one needs to be very careful **(oju lari, ore o denu'**) **(IDI, Spouse of WLBC, Age 56, Post-Diagnosis).**

Despite the fact that some partners kept the diagnosis report away from most of their family members, they eventually informed some very close family members. Most especially the woman's family because they needed to keep them abreast of the situation. Moreover, being a sensitive matter that involves life, the men insisted that the woman's family be informed about it, so that they would not be blamed in case the ailment results in death, as narrated below:

> Her family members are aware because it involves life and I cannot keep that to myself, especially from her immediate junior sister and her two brothers. Her mother knows as well but we did not let her know the type of sickness she is battling with **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**
>
> I have to tell family and friends, especially when I heard people say that breast cancer kills. If the worst thing should happen, that would create serious problem for me from her family. For instance, they were the first set of people that insisted that it was spiritual attack, and they were sponsoring her various trips to native doctors without any positive change. Eventually I took my stand that they should sign an understanding note for me that if anything should happen to her due to theirdaughter's refusal in going for surgery (based on their pieces of advice), that I their son-in-law should not be held responsible. That was when they agreed to let her go for the surgery **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

4.5.9.1 Influence and role of other significant others (such in-laws, friends, religious group members) on the spousal relationship

The role of people which included family members, friends, in-laws, neighbours, religious group members, acquaintance and so on, which could also be referred to as significant others, which they played in the spousal relationship was evaluated. There were positive and adverse results, depending on the closeness between the spouses and the person/people under discourse.

From the findings, most of the participants did not disclose the health status of the woman to people around them. This made them less vulnerable to any influences from people around. In essence, their spousal relationship was being influenced by the present health challenge which they were handling by themselves, rather than invite the contributions parties. Narrations below provided insight into these:

> It is always positive and good roles they have on my spousal relationship though, there is no way one will not see bad people with good behaviour but in my own case, they are very minimal. Good people with good roles are surrounding my spousal relationship **(IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**
>
> Positive influence because I don't expose myself or my husband to outsiders in my relationship **(IDI,WLBC, Age 57, Post-Treatment).**
>
> Positive and good influence, they have never brought any bad thing into our marriage moreover we don't allow outsider in our marriage. If there is any problem, we try to sort it out by ourselves **(IDI, WLBC, Age 47, Post-Treatment).**
>
> My husband and I don't keep friend as such but in-laws and religious group members are always having positive influence, good influence in my relationship and I pray it continues **(IDI, WLBC, Age 40, Post-Treatment).**
>
> They all have positive influences on my spousal relationship till now that my wife is having breast cancer, they have all contributed money for her, also they have been praying for her as well, except my people who are not aware.
> **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**
>
> Positive influence because we don't give them chance to poke-nose into our affairs **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**

However, most partners stayed off the influence of people around them. And for those that had their family involved, they received whatever support they offered. This is narrated below:

> People from my family played exceptional role, they contributed to the success of my health and relationship. They are the only set of people that are aware of my health challenge and they have been contributing cash, and morally they have been there for me **(IDI, WLBC, Age 37, Post-Diagnosis).**
>
> They have been so good to me, especially my female siblings, both senior and junior ones. My immediate senior sister invited me home (my state of origin) for proper care, she was there for me for the three weeks that I spent with her. She provided counselling, feeding, medication e.t.c. she even gave me money when I was coming back to Ibadan. Others had been spending for me too except my two brothers who did not bother to ask of me, talk of giving me money **(IDI, WLBC, Age 50, Post-Diagnosis).**

4.5.10 Religious Orientation

The three major practiced religions in the study area (The Ibadan Metropolis) were Christianity, Islam and Traditional forms of worship. From the interview, the participants reported that they were born into the religion which they practiced, and some practiced their present religion by virtue of marriage to their spouses. Some partners reported that they practiced different religion from their spouses, and it did not affect their relationship adversely.

To the main discourse of this study, which was to examine the role played by the emergence of the breast cancer ailment of the wife, on the religious orientation of the spouses (man and woman). From the interrogation the participants claimed that they all believed in God and they needed the different religious avenues to reach out to God. They referred to God as the 'Uncreated being' who must be served and worshipped in reverence awe. Therefore, even before the diagnosis of the ailment, they did not take the things of God with levity, and that the most important thing was to believe in God and serve Him wholeheartedly. Below are the narrations from the participants that corroborated this:

> May God have mercy. Having faith in Him is the most important thing, going to church or mosque is not the major thing or issue, but the way you have your faith in him matters most **(IDI, WLBC, Age 37, Post-Diagnosis).**
>
> I don't talk physically like this as I said, instead I pray a lot and read my Bible. Am very close to my God and practice my religion whole heartedly. After the diagnosis, my believe in God is still the same, even the more, because He is the one that can do what no man can do **(IDI, WLBC, Age 47, Post-Treatment).**
>
> We attend our different churches regularly; she attends Christ Chosen Charismatic Church while I attend Roman Catholic Church. Despite the different church, we pray together every morning as a family, which is a must for everyone at home. Health challenge has nothing to do with my wife religious belief, because she is so religious. Before having this breast cancer and after the diagnosis she still performs her belief as ever before **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**
>
> We so much believe in Allah; we worship Him through our prayers. Once I pray about anything, I have 100% believe of receiving from Him. I do not like going from one place to another in search of miracle or for what is not lost. By so doing it makes me draw closer to God in prayer than ever before **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

However, from the various narrations, the partners reported that, with the incidence of breast cancer, they had drawn closer to God. In essence, the diagnosis of the breast cancer registered more of the presence and the need of God in their lives, more than ever before, as He is the only one who can perfect the healing.

Also, that the life they were living after the diagnosis and treatment was another privilege from God. These are narrated below:

> My spouse and myself are: Pastor and Pastor Mrs, so we were close to God before the breast cancer diagnosis. But now that there is a health challenge, it is my spouse that has been more dedicated. I can’t act the way I used to do before. Though it is a physical change, nothing has and can draw me back from my God **(IDI, WLBC, Age 57, Post-Treatment)**

> I am the type that goes to church often to worship my God. Before we moved to our site, I use to wake up by 5a.m in the morning to sweep the church environment and God has been rewarding me. I therefore concluded that God wanted me to move closer to him that was the reason for allowing this breast cancer in my life, and not to be wearied in serving Him. Though I’ve not had opportunity to start going to church after the surgery because I lost nearly every strength in me, but am just regaining it now. I will continue to serve God and better when am fully recovered **(IDI, WLBC, Age 43, Post-Treatment).**

> It is God that is giving me the second chance. November 25 last year, it was like I was dying, but He (God) restored my soul **(IDI, WLBC, Age 37, Post-Treatment).**

The participants had divergent religious backgrounds and affiliations, which made them to believe that there is a God (the uncreated being) that created the whole universe, and they worshipped Him within their own capacity and according to their knowledge. They were then probed to know whether they were disappointed in God, despite their worship and service to Him. Below are their narrations:

> We have no other choice than to worship God as we were all directed by God to worship Him, both living and non-living thing. I pray God should help me and make it easier for my wife and I to worship him the more. The breast cancer diagnosis of my wife has drawn us closer to God, because he is the only one that can heal her and return her back to good health **(IDI, Spouse of WLBC, Age 51, Post-Diagnosis).**

> Well, let me put it this way, if one is called a Christian, it does not mean every Dick and Harry that bear Christian name, or born as a christian that is Christian. But the true worshiper of God must worship him in spirit and in truth. As a Christian, I think I fall into that category as well as my, she is a true worshipper of God. **(IDI, Spouse of WLBC, Age 52, Post- treatment).**

When the partners were interrogated further, they expressed their optimum confidence in God and that they were not disappointed in God for allowing them to be the one affected by the ailment. This is expressed below in these narrations”

> I am not disappointed in God because I got what I asked for when I was praying for a wife year back. I prayed for a genuine child of God who will be my mother, father if possible, my sister, my everything. I was not specific on either blue, black or white in colour or talking about beauty, now that she is having this health challenges I know God knows much about it and capable of healing her. Which means am closer to him together with my wife, and I know she cannot die **(Spouse of WLBC, Age 48,2017 Post-Treatment).**
>
> I give God the glory for making me and my spouse to know him better we are much closer to our God and he is the only hope we are having. He is the one that is allowing us to obtain mercy and grace, and I know he will be there for us.
>
> For even being alive till now, who am I to say that I am disappointed in Him, only for me to have more faith in Him, and for the completion of the good work He has started in me **(IDI, WLBC, Age 49, Post-Treatment**).

4.5.11 Community members’ perception on how breast cancer would affect several aspects of the spousal relationship

This section reported the community members’ perceptionof how breast cancer diagnosis and treatment would affect several aspects of spousal relationship, ranging from the relationship of the affected person with others to affected areas of spousal relationship and affected areas of family finance. As Table 4.11 revealed, the highest percentage of the respondents (44.1%) indicated that BC would affect the spouse, followed by 40.1% who stated that it would affect the children and relatives (32.0%). This shows that there is possibility that the occurrence of BC would affect the significant others especially those who are relatives of the affected person.

The specific area of spousal relationship it would affect was ascertained from the respondents. Nearly half of the respondents indicated that BC would affect the area of spending together (47.7%), sexual intimacy (47.3%), and child bearing (41.1%). Other specific areas of spousal relationship it would affect include sharing responsibilities (36.8%), understanding each other (34.5%), communication (30.8%) and the entire family members (32.9%) among others. This is indicative that BC can affect almost every sphere of spousal relationship.

Another affected area of spousal relationship which could be negatively affected was the family finance. It was revealed that the specific areas of family finance it would affect included general increase in family expenses (25.6%), general increase in marital expenses (30.0%), as well as cost of social outings. This suggests that the financial aspects of the family of the affected person would be negatively affected due to the additional costs BC that would incur on the management and treatment of the conditions.

Table 4.12 reveals that there is statistically significant relationship between affected person and how BC affects relationship. For example, the relationship between relatives ($x^2 = 106.32$; $p < 0.05$), colleagues ($x^2 = 55.12$; $p < 0.05$), religious associates ($x^2 = 42.12$; $p < 0.05$), friends ($x^2 = 97.94$; $p < 0.05$), neighbours ($x^2 = 43.25$; $p < 0.05$), spouse ($x^2 = 163.10$; $p < 0.05$) and children ($x^2 = 110.42$; $p < 0.05$)of the affected person are affected by the disease with spouse of the affected person being the highest proportion.

Table 4.11: Distribution of respondents by the assumed affected relationship and affected areas of spousal relationship

Variables	Frequency (N=660)	Percentage (%)
Affected relationship(Multiple response)		
Relatives	211	32.0
Colleagues	128	19.4
Religious associates	91	13.8
Friends	166	25.2
Neighbours	113	17.1
Spouse	291	44.1
Children	269	40.8
Affected area of spousal relationship(Multiple response)		
Understanding each other	228	34.5
Sharing responsibilities	243	36.8
Communication	203	30.8
Resolving misunderstanding	177	26.8
Spending money together	315	47.7
Doing things together	264	40.0
Sexual intimacy	312	47.3
Child bearing	263	39.8
Child rearing	271	41.1
The entire family members	217	32.9
Friends	196	29.7
Religious commitment	172	26.1
Affected areas of family finance		
General increaseinfamily expenses	169	25.6
General increase in marital expenses	198	30.0
Cost of social outings	171	25.9

Source: Fieldwork, 2017

Table 4.12: Breast Cancer and the assumed relationship of the affected women

Variables	BC and the woman's relationship: BC affect woman's relationship (%)	BC and the woman's relationship: BC cannot affect woman's relationship (%)	Chi square; p-value
Affected relationship			
Relatives*	176 (49.2)	35 (11.6)	106.328; 0.000
Colleagues*	107 (29.9)	21 (7.0)	55.118; 0.000
Religious associates*	78 (21.8)	13 (4.3)	42.123; 0.000
Friends*	145 (40.5)	21 (7.0)	97.940; 0.000
Neighbours*	93 (26.0)	20 (6.6)	43.247; 0.000
Spouse*	239 (66.8)	52 (17.2)	163.098; 0.000
Children*	212 (59.2)	57 (18.9)	110.422; 0.000
Affected area of spousal relationship			
Understanding each other*	153 (42.7)	75 (24.8)	23.220; 0.000
Sharing responsibilities*	182 (50.8)	61 (20.2)	66.107; 0.000
Communication*	143 (39.9)	60 (19.9)	31.003; 0.000
Resolving misunderstanding*	129 (36.0)	48 (15.9)	33.854; 0.000
Spending money together*	227 (63.4)	88 (29.1)	77.108; 0.000
Doing things together*	195 (54.5)	69 (22.8)	68.250; 0.000
Sexual intimacy*	235 (65.6)	77 (25.5)	105.920; 0.000
Child bearing*	192 (53.6)	71 (23.5)	62.006; 0.000
Child rearing*	202 (56.4)	69 (22.8)	76.313; 0.000
The entire family members*	160 (44.7)	57 (18.9)	49.481; 0.000
Friends*	146 (40.8)	50 (16.6)	46.049; 0.000
Religious commitment*	122 (34.1)	50 (16.6)	26.101; 0.000
Affected areas of family finance			
General increaseinfamily expenses*	132 (36.9)	37 (12.3)	52.124; 0.000
General increase in marital expenses*	156 (43.6)	42 (13.9)	68.661; 0.000
Cost of social outings*	135 (37.7)	36 (11.9)	56.754; 0.000

*****Significant at $p < 0.05$, degree of freedom for all variables cross-tabulated is equal to 1

The affected areas of spousal relationship were also explored. All categories of areas of spousal relationship were statistically significantly related to BCaffecting the relationship. Take for instance, understanding each other (x^2 = 23.22; $p < 0.05$), sharing responsibilities (x^2 = 66.11; $p < 0.05$), communication (x^2 = 31.0; $p < 0.05$), resolving misunderstanding (x^2 = 33.85; $p < 0.05$), spending money together (x^2 = 77.12; $p < 0.05$), doing things together (x^2 = 68.25; $p < 0.05$), sexual intimacy (x^2 = 105.92; $p < 0.05$), child bearing (x^2 = 62.0; $p < 0.05$), child rearing (x^2 = 76.31; $p < 0.05$), the entire family members (x^2 = 49.48; $p < 0.05$), friends (X^2 = 46.05; $p < 0.05$), religious commitment (x^2 = 26.10; $p < 0.05$) are the areas related to how BC affects the relationship of the affected woman, with sexual intimacy being mostly affected, followed by spending money together.

The affected areas of family finance were ascertained from the respondents, there are also statistically significant relationship between general increase in family expenses (x^2 = 52.12; $p < 0.05$), general increase in marital expenses (x^2 = 68.66; $p < 0.05$), cost of social outings (x^2 = 56.75; $p < 0.05$) and the association of BC and the relationship of the affected woman with general increase in marital expenses being the highest. This is suggestive that all areas of family finances affect the relationship of the affected women with BC.

Further analysis of the association between the diagnosis and treatment options of BC and spousal relationship is present in Table 4.13 using logistic regression analysis. While the dependent variable (spousal relationship) is categorized into whether it can affect spousal relationship (1) and it cannot affect spousal relationship (0); the marital status of the respondents, methods of diagnosis, treatment options and selected demographic variables served as the independent variables as represented in models 1, 2 and 3 respectively.

At model 1 of the analysis, only marital status was considered, and there is no statistically significant association between marital status and spousal relationship. However, at the inclusion of methods of diagnosis and treatment options of BC, significant associations with spousal relationship were observed. For example, those who perceived that BC cannot be diagnosed are 4.3 times more likely to perceive that BC would affect spousal relationship. Furthermore, those who perceived that self-breast examination (OR=2.537,

$p < 0.01$), mammography (OR=1.718, $p < 0.05$) and ultrasound (OR=1.774, $p < 0.05$) are statistically found significantly associated with spousal relationship. These means that those who knew the methods of diagnosis for BC are self-breast examination, mammography, and ultrasound are 2.5, 1.7 and 1.8 times more likely to perceive BC to affect spousal relationship.

In the same vein, the association of the treatment options especially the use of radiotherapy and chemotherapy were found to be significantly associated with spousal relationship. In other words, those who thought radiotherapy (OR=1.607, $p < 0.05$) and chemotherapy (OR=2.495, $p < 0.05$) are the treatment options are 1.6 and 2.5 times more likely to be affected in spousal relationship than those who prefer traditional options of treatment. This implies that treatment options for BC by the affected women had a long way in determining the level of social bond or cordial relationship that would exist among affected couples after diagnosis and treatment of the health conditions.

Table 4.13: Logistic regression showing an association between diagnosis, treatment options of BC and spousal relationship

Predictor variables	Model 1 OR	Model 2 OR	Model 3 OR
Marital status			
Single (Ref)	1.000	1.000	1.000
Married	1.210	1.068	1.081
Divorced, separated or widow	0.838	0.912	0.891
Methods of BC Diagnosis			
Cannot be diagnosed		4.300*	4.235*
Self-breast examination		2.537**	2.643**
Mammography		1.718*	1.569*
Ultrasound		1.774*	1.511
Other methods		1.610	1.881
Treatment options			
Traditional options (Ref)		0.992	1.075
Radiotherapy		1.607*	1.698*
Chemotherapy		2.495**	2.685**
Lumpectomy		0.714	0.670
Mastectomy		1.529	1.522
Hormone therapy		1.028	0.975
Gender			
Male (Ref)			1.000
Female			0.748
Age			
Less than 19 (Ref)			1.000
20 – 29			2.960
30 – 39			3.647*
40 – 49			3.479*
50+			3.359*
Religion			
Christianity(Ref)			1.000
Islam			0.675*
Traditionalists			0.491
Ethnic group			
Hausa (Ref)			1.000
Igbo			0.253
Yoruba			0.262
Others			0.198
Occupation			
Unemployed (Ref)			1.000
Employed			0.563
Self-employed			0.744
Others			0.690
Income			
Less than 20000 (Ref)			1.000
20000 – 49999			1.148
50000 – 79999			0.878
80000+			0.925
Education			
No formal education (Ref)			1.000
Primary			1.393
Secondary			1.013
Tertiary			1.582

Significant at $p<0.05$* $p<0.01$; Ref = Reference category

At model when socio-demographic variables of the respondents were included to the model, all variable categories previously included in the analysis were still found statistically significantly associated with spousal relationship. For example, the odds of those who perceived it cannot be diagnosed, self-breast examination as a method of diagnosis and mammography are 4.2, 2.6 and 1.6 times more likely to perceive that the relationship between the affected woman and spouse would be affected. And again, those who perceived that radiotherapy and chemotherapy are the treatment options available for the affected women are 1.7 and 2.7 times more likely to perceive that the relationship between the affected woman and spouse would be affected than those who chose traditional options.

Indeed, age of the respondent is a significant factor in determining the magnitude of BC effects on spousal relationship. For instance, those respondents whose age are between 30 – 39, 40 – 49 and 50 years and above are 3.6, 3.5 and 3.4 times more likely to perceive that BC would affect spousal relationship among couples than those who are less than 19 in age. It then means that age of the respondents can be a predictive factor or play significant role in the influence of how BC can affect spousal relationship. Again, religious affiliation of the respondent could also be a factor. As revealed in the table, those who are Muslims are 67.5% less likely to perceive that BC would affect spousal relationship when compared to the adherents of Christianity. These are indicative that while methods of diagnosis and treatment options are fundamentally significant in determining how BC would affect spousal relationship, socio-demographic characteristics may not except for the age and religious affiliation of the respondents.

Because of the need to determine the net effects of the predictor variables of post-treatment effects of BC on the affected women and spousal relationship, on the other hand, logistic regression analysis was employed at three models as presented in Table 4.14. While model 1 of the analysis included perceived effects of treatment variables, affected aspects of spousal relationship and selected socio-demographic variables were included in model 2 and 3 respectively.

At model 1 however, there are statistically significantly association between perceived effects of treatment and the dynamics of spousal relationship. Those who perceived the treatment effects to disfigure the body of the affected woman (OR=3.605, $p<0.01$), cause body pain (OR=1.497, $p<0.05$), generate to psychological trauma (OR=1.529, $p<0.05$) and result to social stigma (OR=3.309, $p<0.01$) are found to be statistically significantly associated with the dynamics of spousal relationship.

Table 4.14: Logistic regression showing an association between effects of post-treatment of BC and dynamics of spousal relationship

Predictor variables	Model 1 OR	Model 2 OR	Model 3 OR
Perceived effects of treatment			
Body disfigurement	3.605**	3.102**	3.325**
Body pain	1.497*	1.147	1.148
Psychological trauma	1.529*	1.395	1.352
Social stigma	3.309**	3.035**	2.934**
Others (whining of hair)	1.320	2.602	2.447
Affected aspects of spousal relationship			
Understanding each other		0.812	0.756
Sharing responsibilities		2.053*	2.016*
Communication		0.961	1.032
Conflict resolutions		1.328	1.390
Spending money together		1.466	1.387
Doing things together		1.208	1.225
Sexual intimacy		2.153*	2.204*
Child bearing		1.070	1.039
Child rearing		1.518	1.557
Family		1.165	1.234
Friends		1.244	1.171
Religious commitment		0.506	0.501*
Occupation			
Unemployed (Ref)			1.000
Employed			0.741
Self-employed			1.113
Others			0.812
Income			
Less than 20000 (Ref)			1.000
20000 – 49999			1.002
50000 – 79999			0.760
80000+			0.909
Education			
No formal education			1.000
Primary			0.999
Secondary			1.011
Tertiary			1.700
Marital status			
Single			1.000
Married			1.411
Divorced, separated and widow			1.151

Significant at $p<0.05$* $p<0.01$; Ref = Reference category

At the inclusion of affected aspects of spousal relationship, only body disfigurement (OR=3.102, $p<0.01$) and social stigma (OR=3.035, $p<0.01$) were found to be significantly associated with the dynamics of spousal relationship. Regarding the affected aspects of spousal relationship, sharing responsibilities (OR=2.053, $p<0.05$) and sexual intimacy (OR=2.153, $p<0.05$) were found to be significantly related to spousal relationship. This suggests that sharing responsibilities and sexual intimacy are 2.1 and 2.2 times more likely to perceive that the spousal relationship between that affected woman and the spouse would be affected.

Similarly, while body disfigurement (OR=3.325, $p<0.01$), social stigma (OR=2.934, $p<0.01$), sharing responsibilities (OR=2.016, $p<0.05$), sexual intimacy (OR=2.204, $p<0.05$) and religious commitment (OR=0.501, $p<0.05$) are significantly associated with spousal relationship at model 3, the inclusion of socio-demographic variables such as occupation, income level, educational attainment and marital status of the respondents were not significantly associated with spousal relationship. This implies that although the inclusion of the socio-demographic characteristics reshapes body disfigurement, body pain, psychological trauma, social stigma, sharing responsibilities together, sexual intimacy and religious commitment in their effects on spousal relationship, they did not independently influence spousal relationship among the affected couples.

4.6 Dynamics in the spousal relationships and the different phases of breast cancer: pre-diagnosis, post-diagnosis and post -treatment

This objective of the study highlighted above provided the information obtained from the partners about the changes they could recall that occurred in their spousal relationship at the various stages and phases of the health challenge. That is, the spousal relationship that existed pre-diagnosis, post-diagnosis and pre-treatment. This was elaborated around how they viewed and experienced the following concepts of stability, instability, satisfaction, dis-satisfaction in their relationship.

4.6.1 The Phases of the disease and the dynamics of the resulting spousal relationship

4.6.1.1 Relationship before diagnosis

Responses elicited from the partners reflected true state of a typical spousal relationship wherein there was love, trust, cordiality, and there was normal interaction between the partners (husband and wife). In the existing spousal relationship, there was optimum hope of longevity, and continuity of the bond and love shared between them. It also appeared that every aspect of the relationship was functioning well. Also, in situations where there were misunderstanding, they were usually settled/sorted out amicably, without involving any third party. Below is a corresponding narration:

> I thank God for answering my prayers when I was praying for a life partner. I prayed for a husband like my father, because my own father was a caring husband, and God answered my prayer. To be honest with you, my husband is caring and our relationship is cordial, and I pray that the money he would use to take care of me more than the usual way, the Lord will give unto him. Wedo have misunderstandings, but it does not last to the extent that someone has to come and settle our disputes or fight. At times when I want to behave like a typical woman and want to keep malice, my husband would be the first to come for reconciliation. Based on my rating of cordiality, I can say we score a very high percentage. I have never regretted marrying him for once. I never thought of him as my life partner, but after prayers, it was revealed to me that any man that I come across within that time in question would be my husband. To God be the glory here we are, happily married **(IDI, WLBC, Age 43, Post-Diagnosis).**

In the same vein, there were some relationships during the pre-diagnosis stage, wherein both partners were indifferent to each other and they had accepted the disposition of their spouse for life. The disposition of the partner, then affected the extent and nature of care given to each other, and this affected the level of satisfaction they expected and received from each other. For instance, a WLBC gave the narration below:

> I know perfectly that my husband is a non-challant person, that does not care about people or things. So much, that he did not care to follow me to the clinic throughout the diagnosis and treatment period. I have since accepted it as my destiny and resolved to fate **(IDI, WLBC, Age 49, Post-Treatment).**

4.6.1.2 Relationship After diagnosis (Pre-treatment)

This period in the life of the partners was a phase of life wherein reality dawned on them that the woman had been diagnosed with breast cancer, and she was yet to start any treatment regimen. The disclosure of the new health status to the woman caused an initial imbalance in the psychological make-up of the spouses, which was reflected in the described reactions in the early part of this work. The way the spouses absorbed and handled the diagnosis report depended largely on the intimacy between them, and on their religious belief (faith in God). The level and extent intimacy of the relationship before the diagnosis was being challenged by the new health status. However, the determination and the will to live and abide by the vows of the relationship of 'for better for worse' strengthened the relationship.

From the study, the spouses (husband) were the ones that were found to be and being strong for their wives, and were taking the lead in encouraging them to seek medical attention.

The spouses responded that their relationships were still intact and cordial after the diagnosis of the ailment. The women reported that they received more attention and pampering from their husbands after the diagnosis and pre-diagnosis. Below are some narrations from the post-diagnosis participants, as they were able to recall their experience:

> After the diagnosis and confirmation that I have breast cancer, our relationship had been very close and cordial. I can even say, more than usual at least you can see that yourself. With all my experiences, I can pray to have him as my husband second time in life, if have the opportunity **(IDI, WLBC, Age 48, Post-Diagnosis).**
>
> After the diagnosis and confirmation that she has breast cancer, our relationship has been the same thing. At least she did not pray for it, neither did she write application for it. So I have accepted her for better for worse **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**
>
> The relationship deepened, I can see and say these through his behaviors to me **(IDI, WLBC, Age 40, Post-Diagnosis).**
>
> He has not disappointed me in anyway, instead the cordiality has increased than normal. He has been there for me; no one but him and God **(IDI,WLBC,Age 43,**

> **Post-Diagnosis).**
>
> Our relationship is still okay and am happy with him. That he is not staying or following me all about does not mean he is not in love with me or our relationship is not cordial. Do you know at all,how much UCH will take for care, so the husbands of women living with breast cancer have no choice than to go into the world and look for money and look for someone who will stay with their wives in the hospital. You know if he does not provide money for treatment, we women will talk of rejection by the husband during her episode of health problem. We also know what is operating economically in Nigeria, things are not easy financially only God can help us to overcome the problem **(IDI, WLBC, Age 50, Post-Treatment).**

In the study some partners revealed that they had some differences in their relationship pre and post diagnosis. Notwithstanding they still had a sense of cordiality in order to seek ways to make the woman healthy, below is a corresponding narration:

> Our relationship is not cordial; we used to have differences in opinions, and I often allow her to have her way. For instance, she attends a different church from my mine and I don't want to tamper with her spiritual life. Instead of taking our children to church together, the vacuum is there now concerning the spiritual state in our relationship. As a man of integrity I don't want to use that as an excuse of not being responsible to her and my family member. I made sure I moved closer to her than before, I pamper and talk together with her on how we are going to overcome this breast cancer. I love her 24/7, if not I would not allow her to be going to a different church from mine. So, whatever God gives to us will be used to treat her, I will make sure I look for money wherever I can get it to take care of her, and I promise our relationship will be cordial (**IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**

4.6.1.3 Relationship after Treatment

In the study, the women living with breast cancer reported that their spouses stood by them during the trying period. The spouses followed them to the clinic, paid the medical bills, stayed with them when hospitalised, and for those working outside-town where the family resides, they sought for a transfer. The relationship deepened after the treatment and its attending aftermath medical consequences. The spouses also saw it as their personal problem taking it that anything that happened to their wives happened to them, and vice-versa. Consequently, they tend to believe the woman would survive the ailment and would recover fully after the treatment. So, they continued to plan their lives together. Below are supporting narrations:

> He was closer to me more than before even after the treatment, because he was the one that stayed with me in the hospital, our children did not come at all. He works outside the Ibadan and we have no choice than for him to go back to his station. In order for him to take care of me properly, he requested for his transfer back to Ibadan zone and here we are, we are okay **(IDI, WLBC, Age 43, Post-Treatment).**

> I bless the name of the Lord, my husband has been there for me, even his mum has been good to me. They are always telling me to have faith in God that there is nothing God cannot do, at least He answered Sarah in her old age. Though,we got married very late and I believe that it is part of war we are both waging together. I have had several miscarriages after the wedding and now breast cancer, so who knows where they all came from **(IDI, WLBC, Age 49, Post Treatment).**

From the study, it was apparent that the relationship that existed before the diagnosis tend to continue even after treatment. So, there was no indications that the emergence of the ailment constituted any change in the relationship.

4.6.2 Perceived Assessment of the Relationship

The women living with breast cancer and their spouses were interrogated on their perceived assessment of the relationship that existed pre diagnosis, post diagnosis and post treatment. The study aimed to particularly investigate their perceived assessment whether they could infer or categorically say that there was stability or instability in the spousal relationship, or if they were satisfied or dissatisfied in their spousal relationship. On the extreme, the study sought to know if there were the regrets in their spousal relationship. This question was categorically asked, and from their responses, the study was able to attribute what category their relationship reflected. It should be noted that the responses were given when the questions were categorically put to the participants.

From the study, most of the partners had similar responses that their assessment of their relationship before the diagnosis (pre-diagnosis) and post diagnosis were the same. Similarly, the treatment did not affect their spousal relationship. The following narrations attested to the above presentation:

> I perceive that the sky is the beginning of our love, existence, new things, upliftment, joy, peace e.t.c. and we shall both live to fulfill our destiny on earth. Sincerely, there are no regrets in the relationship with my spouse after the

> treatment, as things are going on fine and well **(IDI, WLBC, Age 43, Post-Diagnosis).**

> My perceived assessment of the relationship between my spouse and I is cordial, a happy union and lots of love **(IDI, Spouse of WLBC, Age 47,Post treatment)**

> I don't place things on my mind to the extent of damaging my spirit, soul and body. You know there are different types of men in this world, we have some that are good to the last stage, and some can change negatively at any time. Truly, he is my husband, I know and perceive that all would be well after the treatment of this breast cancer. If he behaves the other way round, and I don't want to have hypertension, I will keep praying and leave every other thing to God **(IDI, WLBC, Age 47, Post-Treatment).**

> Many years ahead as husband and wife,with beautiful children coupled with upliftment. No regret at all if I should say the truth **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

A WLBC explained that nothing has changed in their relationship, left for the fact that they had fears about the report from the doctors about the disease. By implication, this could cause dissatisfaction in the relationship, as narrated below.

> No aspect has been affected negatively in our relationship except living in fear due to report we've heard about this disease. My spouse relationship is intact and perfect as it was before and now more perfect. My relationship is stable, left for the fact that we are not happy about the reports **(IDI, WLBC, Age 49, Post - Treatment).**

While probing further on the perceived assessment of spousal relationship, the participants pointed out the financial stress undergone as a result of taking care of the disease. This had caused financial in-balance in the relationship. By inference, this was causing some instability in the spousal relationship than they could envisage, as it was narrated below:

> Our relationship after breast cancer treatment would be fine in as much there is money provision at home, because money answers all things **(IDI, WLBC, Age 40, Post-Treatment).**

> The breast cancer diagnosis and treatment has affected paying our children's school fee, because we use to pay promptly, but now we have not paid. Concerning our building, project, we cannot continue with it and it's very difficult feeding ourselves now. However, I do not regret the relationship between us, as I always crack jokes with her**(IDI, Spouse of WLBC, Age 52, Post -Treatment).**

> The only aspect this ailment has affected in our relationship is our finances, for example we have a building we are both constructing and we are almost through with it. We had to suspend it due to what is going on medically. Altogether, I have no regret in my relationship at all **(IDI, Spouse of WLBC, Age 33, Post - Treatment).**
>
> No other aspect was affected in our relationship than the finances,so much that every member of the family felt the impact. We have sold our properties and we are still on debt. There were somethings we were doing that could not be done again in the family, but we all thank God. I have no regrets at all in the relationship, after all, she is still alive and improving. Had it been we lost her I would have regretted it, but mere seeing her alive, there is no regret **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**

4.7 The sick-role of women living with breast cancer and their spousal relationship

Sick role is a period in the life of the woman living with breast cancer in which she begins to relinquish some or all normal roles. In this survey, the life experiences of the participants and the perceived responses from the respondents were used to examine this objective of the study.

Findings from the qualitative responses revealed that lying down and sleeping due to weakness of the body has become a usual practice by the affected woman, though she was always seeking medical help. As the one of the spouses interviewed narrated:

> She is always lying down and sleeping because she doesn’t have enough strength. But she is always seeking for medical help **(IDI, Spouse of WLBC, Age 52, Post-Treatment).**

From the view of another spouse, it was explained that though his affected wife lay on bed more often than usual, he still encouraged her to come out to the living room to have interaction with other members of the household. As he explained:

> She use to lie on bed than usual, but I don’t tolerate that. I always ask her to come out to the living room and sit among other members of the family, not for her or anyone to feel that there is a sick person living in the house **(IDI, Spouse of WLBC, Age 33, Post –Diagnosis).**

However, most of the participants were discreet in disseminating the information about their health status, which were due to reasons, such as the fear of broadcasting and stigmatisation. Some of the WLBCs were still able to attend their husbands and family needs while some could not attend social outings or religious activities after the diagnosis. As one of the spouses narrated below:

> As religious as she is, she cannot attend every church programme as she used to do before the diagnosis. She is not strong enough to do house chores anymore. She had even stopped working of now, she is always at home because she does not have enough strength **(IDI, Spouse of WLBC, Age 47, Post-Treatment).**

Some women could no longer go to their places of work, they could not even do any chores due to the presence of the disease in their body system. This is corroborated with narratives below:

> I work with a private organization and for the months I was admitted in the hospital, I couldn't go to the office. You know in a private organization, there is a limit to which they can cope with absenteeism. I then thought that in my own interest it is better I call it quit with them and, because 'work outlives man', I then decided and resigned from my appointment **(IDI, WLBC, Age 37, Post-Diagnosis).**
>
> I had to stop working because my strength was failing me, also it was becoming obvious that one breast was having an issue. Secondly, I cannot do any house chores again as my first born of age 10-11 years helps in her little way. Likewise, my husband is doing his bit when he comes back from work. In a nutshell, my house vicinity is not as tidy as it used to be. Thirdly, I can't cook as such it is my husband and my daughter that use to prepare soup and food at night when my husband would have branched at market to buy ingredient and other thing needed at home. I can't wash clothes any longer, it is my husband and my daughter that washes clothes at weekend **(IDI, WLBC, Age 37, Pre-Diagnosis).**

Some spouses also explained that the ailment did not allow their wives to attend to all needs including attendance in social events due to seeking of medical help. The narrations below give details about the several sick-roles that were displayed by the WLBC:

> She cannot work for now, she does not discuss her ailment with people around, she seeks for medical help most times, she cannot attend to all my needs for now, she does not attend to social events because she is not a party type **(IDI, Spouse of WLBC, Age 51, Post -Diagnosis).**
>
> She does not lie on the bed, she is still very active to the extent of going to shop everyday. She did not discuss her ailment with everyone, you know people will just spread it all over, but she told two of her close friends for them to be aware of the disease and know how to be checking themselves for it. She stills seek for

> medical help on appointment date. She attends to my needs and takes of the children **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**
>
> What I can say to that is, my apprentice use to come home to wash our dirty clothes, but cooking of food must be compulsorily done by me. Likewise, my children are the ones fetching water for the household and they do clean the house. All I know is that I cannot do any work for now, my strength is so limited due to surgery done on the breast. Before the diagnosis I can stand at shop from morning till night without feeling it. But now that the diagnosis and treatment have started, no strength as such and I used to sit down to do few work at shop now, instead of standing up to work **(IDI, WLBC, Age 43, Post-Diagnosis).**
>
> Anytime I take chemotherapy, it does not affect me because by the second day am off the bed. But the last chemotherapy I took weighed me down seriously, that I had to stay at home for two weeks. Before and after that nothing of such again, I have been doing every necessary thing that I suppose to do either at home or at work **(IDI, WLBC, Age 40, Post-Treatment).**

Based on the foregoing, the reality is that, the WLBC usually experienced a decline in her productivity after the diagnosis and treatment. When she relinquished some of her roles, the spouse assumed some of these roles and this resulted in 'dual-role' for the the man. Also,the respondents highlighted ways in which the spouse (husband) could adjust to the changes in the responsibilities by being accommodating, supportive, adapting to the condition and so on. Moreover, the participants gave insight into how they were able to assist with the challenges of the shift in some roles and responsibilities as narrated below:

> My husband and I do things together no matter what. Concerning the house chore, you asked about, he is a great helper, he fetches water, cooks food, uses washing machine for clothes, goes to the market to buy things needed. There is no problem at all and he does it with joy **(IDI, WLBC, Age 49, Post-Treatment).**
>
> He used to help me in every aspect at home, he is not the type that leaves everything at home for the wife to do. Whenever he sees me stressing myself too much even before breast cancer diagnosis, he comes to my aid. For example, from the onset he is the one that fetches water, I have never fetched water at home before. He washes clothes when he notices that I am so busy. One way or the other, he never stopped doing house chores due to breast cancer diagnosis, instead he continues to help. During the chemotherapy period, I could not help the situation, I was so weak that he was the one doing it alone **(IDI, WLBC, Age 47, Post-Treatment).**

It was noted in the study that some of the WLBC were able to overcome the aftermath effect of the treatment, and were able to assume their duties as soon as possible, and they did not dwell for long on the sick role position, as narrated below:

> To the glory of God, I have been handling my roles and responsibilities well, because my husband does not tolerate nonsense. He does not welcome any lapses that would affect him or his children such as food preparation at home or denying him of sexual act when he needs it. Whenever he gives a command, action must follow immediately. He does not give room for me to relent on my duties and responsibilities. As a good wife, one must not wait for her husband's instruction before those things are done **(IDI, WLBC, Age 40, Post-Treatment).**
>
> Not that he is wicked, but he has no time, most of the time is spent at work and he comes back late. Moreover, am still capable of doing all those thing to my taste **(IDI, WLBC, Age 50, Post-Treatment).**

In the quantitative study, though it was multiple response questions that was put across, respondents were asked the type of sick roles that would be assumed by the WLBC following the diagnosis of breast cancer. Figure 4.4 indicated that nearly all the respondents reported that the WLBC would seek medical help (84.5%), followed by those who said they would stop going to work (56.1) and lying on bed (54.4%). Other sick roles they assumed the WLBC would display included not attending to the husband's needs (47.0%), not attending to the family's needs (46.7%), not taking care of children (46.7%) among others. This result indicates that on the assumption of sick roles by the affected women with breast cancer, there is possibilities that the relationship between significant others would be strained.

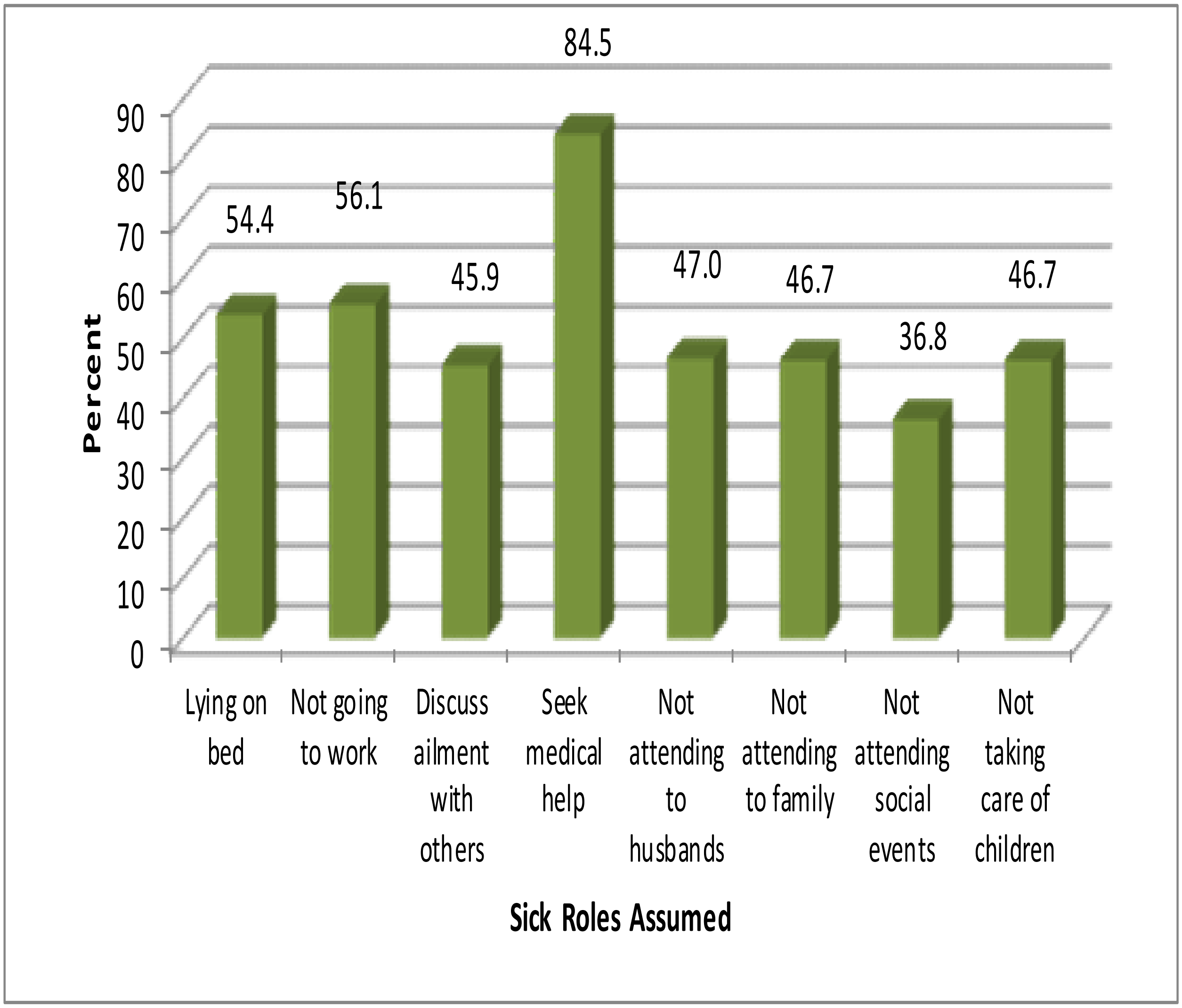


Figure 4.4. Distribution of respondents by the Sick Roles Assumed by WLBC

Table 4.15 further shows the relationship between perceived sick roles the affected woman assumed and how it would affect the spousal relationship. As the table reveals, the likely sick roles assumed by the affected woman with BC, is statistically related to how BC affects spousal relationship. For instance, lying on bed for long time ($x^2 = 30.36$; $p < 0.05$), work cessation ($x^2 = 60.36$; $p < 0.05$), discuss BC with people around ($x^2 = 23.28$; $p < 0.05$), seeking medical help ($x^2 = 82.92$; $p < 0.05$), can't attend to husband needs ($x^2 = 39.66$; $p < 0.05$), can't attend to family needs ($x^2 = 29.64$; $p < 0.05$), stop going for social events ($x^2 = 48.16$; $p < 0.05$), and can't take care of the children ($x^2 = 37.81$; $p < 0.05$) are significantly related to how BC affects spousal relationship. Although all variables considered in the relationship are significantly related to spousal relationship, seeking of medical help, stop going to work and cessation of attendance at social events seemed to affect more of the spousal relationship, when compared to other categories of likely sick role the affected woman would assume. This indicates the likely sick role that would be assumed by a woman affected with BC could be harmful to spousal relationship.

This study also explored the likely changes that may occur in couples' responsibilities using chi square test of independence. It was indicated that the likely changes in their responsibilities are significantly related to how BC affects the spousal relationship. Indeed, the changes in family roles ($x^2= 99.14$; $p < 0.05$), child bearing responsibilities ($x^2 = 57.18$; $p < 0.05$), child rearing ($x^2 = 50.55$; $p < 0.05$), domestic chores ($x^2 = 50.29$; $p < 0.05$), financial obligations ($x^2 = 52.12$; $p < 0.05$), marital obligation ($x^2 = 68.66$; $p < 0.05$), and social outings ($x^2 = 56.75$; $p < 0.05$) are statistically significantly related to how BC affects spousal relationship. This implies that the likely changes in the responsibilities of the couples would affect spousal relationship.

Additionally, the perception of respondents on the role of child bearing, child rearing, domestic chores, financial obligations and social outings after the incidence of BCand how it affects spousal relationship were ascertained. The result showed that there was significant relationship between the role of child bearing after BC and how it affects the spousal relationship ($x^2 = 8.44$; $p < 0.05$), which suggests that the change in the role of child bearing would affect spousal relationship.

Table 4.15: Relationship between perceived sick role the affected woman assumed and her spousal relationship

	Breast Cancer and spousal relationship		
Variables	**BC affect relationship (%)**	**BC cannot affect relationship (%)**	**Chi square; p-value**
Likely sick role assumed			
Lying on bed for long time*	145 (40.5)	63 (20.5)	30.356; 0.000
Stop going to work*	156 (43.6)	47 (15.6)	60.357; 0.000
Discuss BC with people around*	92 (25.7)	33 (10.9)	23.281; 0.000
Seek medical help*	296 (82.7)	149 (49.3)	82.921; 0.000
Can't attend to husband needs*	107 (29.9)	30 (9.9)	39.655; 0.000
Can't attend to family needs*	97 (27.1)	31 (10.3)	29.636; 0.000
Stop going for social events*	136 (38.0)	42 (13.9)	48.159; 0.000
Can't take care of the children*	98 (27.4)	26 (8.6)	37.805; 0.000
Likely changes in responsibilities			
Family roles will change*	240 (67.0)	85 (28.1)	99.142; 0.000
Child bearing will change*	127 (35.5)	31 (10.3)	57.176; 0.000
Child rearing will change*	140 (39.1)	43 (14.2)	50.552; 0.000
Domestic chores will change*	152 (42.5)	51 (16.9)	50.293; 0.000
Financial obligation will change*	132 (36.9)	37 (12.3)	52.124; 0.000
Marital obligation will change*	156 (43.6)	42 (13.9)	68.661; 0.000
Social outings will change*	135 (37.7)	36 (11.9)	56.754; 0.000
Role of child bearing after BC*			
Husband	12 (3.4)	10 (3.3)	8.435; 0.015
Another wife	22 (6.1)	5 (1.7)	
Other relatives	324 (90.5)	287 (95.0)	
Role of child rearing*			
Relatives	66 (18.4)	88 (29.1)	22.770; 0.000
Another wife	62 (17.3)	26 (8.6)	
Husband	18 (5.0)	5 (1.7)	
Nanny	1 (0.3)	1 (0.3)	
Affected woman with BC	211 (58.9)	182 (60.3)	
Role of domestic chores*			
Children	48 (13.4)	82 (27.2)	41.695; 0.000
Relatives	218 (60.9)	193 (63.9)	
Husband	59 (16.5)	18 (6.0)	
House maid	32 (8.9)	9 (3.0)	
Affected woman with BC	1 (0.8)	0 (0.0)	
Financial obligations*			
Husband	120 (33.5)	39 (12.9)	109.815; 0.000
Relatives	224 (62.6)	195 (64.6)	
Friends	3 (0.8)	0 (0.0)	
Another wife	2 (0.6)	2 (0.7)	
Children	8 (2.2)	1 (0.3)	
Affected woman with BC	1 (0.3)	65 (21.5)	
Social outings*			
Husband	47 (13.1)	15 (5.0)	57.847; 0.000
Relatives	15 (4.2)	67 (22.2)	
Friends	2 (0.6)	4 (1.3)	
Affected woman with BC	292 (81.6)	214 (70.9)	
Another wife	2 (0.6)	2 (0.7)	

Significant at $p < 0.05$

The result also shows that there is significant relationship between the role of child rearing and it affecting the spousal relationship ($x^2 = 22.77$; $p < 0.05$). This means that the role of child rearing played by relatives, another wife, husband, nanny, and the WLBC affected spousal relationship.

The relationship between the role of domestic chores and how it affects the spousal relationship was examined. The result indicated that there was significant relationship between the role of domestic chores and the spousal relationship being affected ($x^2 = 41.50$; $p < 0.05$). It follows that the role of domestic chores that would be undertaken by the children, relatives, friends, husbands, housemaid or the WLBC may have a lot of implications on spousal relationship.

In terms of their financial obligations, the result further shows that there is statistically significant relationship between who would play the financial obligations of the family and spousal relationship ($x^2 = 109.82$; $p < 0.05$). It implies that the financial obligations that would be played by the husband, relatives, friends, another wife, children and the affected woman with BC could be detrimental to spousal relationship. And again, it was revealed that there is statistically significant relationship between who would play the role of social outings and spousal relationship ($x^2 = 57.85$; $p < 0.05$). In other words, the role of social outings that would be played by the husband, relatives, friends, affected woman with BC or another wife may affect spousal relationship negatively.

Further examination of the effects of sick roles assumed by the affected women and spousal relationship using logistic regression, as shown in Table 4.16, indicates that absenteeism from work (OR=1.775, $p<0.05$), seeking medical help (OR=2.453, $p<0.05$) and change in marital obligations (OR=1.724, $p<0.05$) were significantly associated with spousal relationship. This follows that the affected women with BC who could not go to work, seeking medical help, change marital obligations are 1.8, 2.5 and 1.7 times more likely to be affected in spousal relationship. This could also mean that once a woman is affected with BC, assuming sick role by being absent from work, seeking medical help and change marital obligations are likely to mount pressure on the affected couples thereby resulting into marital instability.

Table 4.16: Logistic regression showing an association between the effects of sick roles assumed by WLBC and spousal relationship

Predictor variables	MODEL OR (B)	P-Value
Sick roles assumed by the affected person		
Lying on bed for a long time	0.872 (-0.137)	0.580
Not going to work*	**1.775 (0.574)**	**0.029***
Discuss her ailment with people around	1.425 (0.354)	0.169
Seek medical help**	**2.453 (0.897)**	**0.000****
Not attend to her husband's needs	1.089 (0.085)	0.812
Not attend to her family need	0.605 (-0.502)	0.181
Not attend to social events	1.412 (0.345)	0.221
Not take care of children	1.911 (0.648)	0.090
Changing roles in spousal relationship		
Child bearing	1.548 (0.437)	0.145
Child rearing	1.117 (0.111)	0.681
Domestic chores	0.944 (-0.058)	0.827
Financial obligation	1.195 (0.178)	0.546
Marital obligations*	**1.724 (0.545)**	**0.051***
Social outings	1.358 (0.306)	0.332

Significant at $p<0.05$* $p<0.01$

4.8 Spouses' and Community members' perception about the survival of a relationship as a result of breast cancer

This aspect of the study sought to shed light on the different opinions of both the participants and the respondents on the survival of a yet to be consolidated spousal relationship, in view of a suspected or sudden incidence of breast cancer on the woman(lady). During the interview, the participants responded with some emotions as they were requested to make factual responses based on the experience that they had passed through.

A female participants said she would not support her son marrying a lady diagnosed with breast cancer. This response was based on the problems that she had encountered as a result of her health condition, which she does not want a repeated instance around her. This is narrated below.

> You know I have passed through a lot of problems and I know what it means to have breast cancer. So, I don't want my daughter in-law to pass through what I know is unpalatable. As regards letting him marry a girl with a known family history of breast cancer, though the girl does not have it herself, well, there is nothing God cannot do, she might not have it eventually. If my son's fiancé suddenly develops breast cancer, I would advise him to do discontinue with the relationship **(IDI, WLBC, Age 49, Post-Treatment).**

While this same questions were posed to some other participants who had the real life experience, some of them were in support of their sons getting married to a woman diagnosed with or was being treated or had a pedigree of breast cancer. Their submission was that as long as love existed between the two intending partners, this would be the anchor for them throughout life, as they would be able to withstand any other challenge that they might encounter, apart from breast cancer. This also hinges on the theoretical framework of the study, which emphasises love and commitment in a given relationship (spousal). The narrations of the participants corroborating these assertions are presented below:

> I can allow him to marry her, because one can say that she will not make it, and she eventually makes it. That, they used to have it in her linage does not mean she will eventually have it. It is only that God knows the future, after all my husband too stood by me **(IDI, WLBC, Age 40, Post-Diagnosis).**

> It was a man that married me and truly I have a daughter, and my prayer is that she should not have the same problem I am having. Before I got married I didn't know I had breast cancer, I was even pregnant when I was diagnosed. Nonetheless, my husband did not divorce me. **(IDI, WLBC, Age 37, Post-Diagnosis).**
>
> I will not ask him to leave the lady in as much they love each other, because there is nothing God cannot do **(IDI, WLBC, Age 47, Post treatment)**
>
> If my son's fiancé suddenly develops breast cancer. I will advise him to continue with the marriage plans, after all, my wife developed it and, she survived it **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**
>
> I will allow my son to continue the relationship with a girl with family history of breast cancer, because in my family, nobody has breast cancer, that is why I don't believe it is hereditary **(IDI, WLBC, Age 49, Post-Treatment).**

Similarly, a sense of indifference was recorded from the participants on whether or not they would allow their sons to marry a lady diagnosed, or treated or has a family pedigree of breats cancer. Thisis narrated below:

> If the boy is fully interested in marrying her with her condition I have no choice, at least I have to like whatever he likes, after all there is nothing God cannot do. I can allow him to marry a girl with a known family history, because I don't believe that breast cancer is hereditary. God will show him the way he would go, but mind you, it is better not to know and dabble into it, than knowing full well and jump into it before seeking for solution. If my son's fiancé suddenly develops breast cancer, my advice would still be that he ask God to show him the way **(IDI, Spouse of WLBC, Age 57, Post-Treatment).**
>
> Singles don't have breast cancer it is only women that are married, given birth to enough children that used to have it. Moreover, no one knows tomorrow, talk of knowing whether she will have breast cancer in the future **(IDI, WLBC, Age 50, Post-Treatment).**

In addition to the responses from the participants, the community gave their perception which was described below:

Table 4.17: Perceived effects of breast cancer on spousal relationship from the viewpoint of the male respondents (N=326)

Variables	Frequency	Percentage
Marriage with affected women		
Yes, I can	33	10.1
No, I can't	188	57.7
Can't say	105	32.2
What happens if fiancé develops breast cancer		
Stop relationship	102	31.3
Continue relationship	80	24.5
Don't know	144	44.2
Marriage with women treated of breast cancer		
Yes, I can	121	37.1
No, I can't	96	29.4
Don't know	109	33.4
Marriage with women of known pedigree of BC		
Yes, I can	93	28.5
No, I can't	93	28.5
Don't know	140	42.9
Having sex with a woman without breast		
Yes, I can	45	13.8
No, I can't	183	56.1
Don't know	98	30.1
Ever-had sex with a woman without breast		
Yes, I have	14	4.3
No I have not	239	73.3
I can't say	73	22.4
If yes, was the sex pleasurable		
Yes, it was	7	50.0
No it was not	5	35.7
I can't say	2	14.3
If wife suddenly develops BC, what happens to sex		
Stop having sex with her	85	26.1
Not stop having sex with her	108	33.1
Don't know	133	40.8
If wife suddenly develops BC what happens to relationship		
Continue with relationship	187	57.4
Discontinue relationship	19	5.8
I don't know	120	36.8
Role to play if wife develops BC		
Take her to hospital	245	75.2
Herbal treatment	3	0.9
Leave her to take decision	7	2.1
Others	71	21.8
Roles, if daughter suddenly develops BC		

Take her for medical treatment	162	49.7
Herbal treatment	5	1.5
God forbid	91	27.9
I don't know	5	1.5
Other	63	19.3

Source: Fieldwork, 2017

Table 4.18: Perceived effects of breast cancer on spousal relationship from the viewpoint of the female respondents (N=334)

Variables	**Frequency**	**Percentage**
Sons' marriage with affected woman with BC		
Yes, I can allow	19	5.7
No, I cannot allow	218	65.3
Don't know	97	29.0
Sons' marriage from family with history of BC		
Yes, I can allow	79	23.7
No, I cannot allow	132	39.5
Don't know	123	36.8
Advice to son whose fiancé develops BC		
Continue the relationship	77	23.1
Discontinue the relationship	114	34.1
I don't know	143	42.8
Reaction if daughter develops BC		
Take her to hospital for treatment	155	46.4
Herbal treatment	6	1.8
God forbid	105	31.4
I don't know	68	20.4
Reaction if son's wife develops BC		
Seek medical attention	238	71.3
Divorce her	3	0.9
Not sure of what to do	23	6.9
Others	70	21.0

Source: Fieldwork, 2017

From Table 4.17, about one-fifth of the male population (24.5%) reported that they would continue their relationship with their fiancé if she develops breast cancer. 37.1% also reported that they could marry a woman treated with breast cancer, and 28.5% reported that they could marry a lady with a known pedigree of BC. Majority of them (57.4%) posited that they would continue the relationship if their wife suddenly develops BC.

Similarly, from Table 4.18, one-fifth of the female population (23.7%) reported that they could allow their son to marry a lady with a known pedigree of BC, though the lady does not presently have it. Furthermore, 23.1% of the women responded that they would advise their sons to continue relationship with a fiancé who suddenly develops breast cancer.

From Tables 4.17 and 4.18, there were instances wherein the responses from the male and female respondents were indifferent. In Table 4.17, one-third of the male respondents (32.2%) reported that were undecided if situation arose for them to marry a woman affected with BC. Majority of them (44.2%) reported that they do not know if they would stop or continue a relationship with a fiancé that develops BC, while 42.9% also were of the opinion that they would not marry a lady with a known pedigree of BC. In the same vein, on table 4.18, the female respondents had various responses.36.8% were undecided if they would allow their son to marry a lady with a known pedigree of BC, while majority (42.8%)reported that they do not know if they would advice their sons to continue relationship with his fiancé if she develops BC.

From the quantitative study as presented in Table 4.17, the male respondents were requested to respond to some straight forward questions, and over half (57.7%) of the respondents declined that they cannot marry a lady diagnosed with breast cancer. About one- third of the men population (31.3%) reported that they would stop the relationship if their fiancé developed breast cancer. Also about one-third of the men (29.4%) reported that they would not marry a woman who had been treated of BC 28.5% reported that they would not marry a woman with a known pedigree of breast cancer, though she does not presently have it. In the same vein, half of the male respondents(56.1%)reported that they cannot have sex with a woman without breast.

Table 4.18 reflected the perception of the female population of this study, and majority(65.3%) were not in support of their son getting married to a woman with breast cancer, while 39.5% would not allow their son to marry from a family with a known history of breast cancer, and one-third of the female respondents(34.1%) reported they would advise their son to discontinue the relationship with a fiancé who suddenly develops breast cancer.

As a sign of commitment and love to spousal relationship, as shown in Table 4.17, one-third of the men population (33.1%) posited that they would still continue to have sex with their wives if she suddenly develops breast cancer. Majority (57.4%) stated that they would continue their relationship with their wives no matter the challenge or health condition, while 75.2% responded that they would be ready to assist to get their wives diagnosed at the hospital. Also, almost half of the male respondents(49.7%) were ready to take care of their daughter medically if suddenly develops BC. Again, the women population on table 4.18 were ready to seek medical help for their assumed daughter in-law or diagnosed grown up daughter if they were diagnosed of breast cancer.

4.8.1 Culture and the hereditary aspect of Breast Cancer

The place of culture cannot be under-played or under-emphasized in a relationship. As a norm in the Yoruba culture within which the study area (the Ibadan metropolis) is entrenched, before any young person gets married, there would be investigation into the family background of both parties to know any incident or known disease or curse. This they claimed has helped to avert the continuity of some disease or malady such as leprosy, epilepsy, madness and so on in the future generation.

The responses enunciated from the participants buttressed the fact that though breast cancer is a non-communicable,but it could be passed from a progenitor to the offspring, and it could be in the family tree. This is further corroborated in the narrations below:

> All that I have heard about or known about breast cancer is how to check the breast and detect lump at early stage. I do not know much as I said or have anyone who suffers from it besides me before, only of my mum’s sister who removed lump sometimes during her childbearing age. Nothing bad happened to

> her only for her to give birth to another baby, making six (6) in number **(WLBC, Age 40, Post-Diagnosis).**
>
> I have been hearing that Breast Cancer is a deadly disease with no cure except cure from divine intervention. I also heard that if one is affected and treated at early stage with the removal of total breast through surgery, the woman can survive it. I have an example from her Aunt who happened to have Breast Cancer years back and was treated with surgery here in UCH. As far back as 15 years ago, the woman is still very much alive, hale and healthy. We accommodated her in our house, my wife and I stood by her throughout the time she had the surgery and had other treatment here in UCH, and you know nobody got a wind of it **(IDI, Spouse WLBC, Age 56, Post-Treatment).**
>
> I cannot discourage him, if he has faith in his God that she is his wife. As regards if I would let my son marry a girl with known family history of breast cancer though the girl does not have it herself; you know that we can't compare olden days with this present day. This is because, that time, ***they do underground investigation about family health condition, but now is not like*** that. However, if they love each other, I will allow them to marry each other **(IDI, Spouse of WLBC, Age 45, Post-Diagnosis).**

Consequently, there is the need for medical background check for every individual, in order to prevent or take necessary precautions before a full-blown disease is established.

4.9 Coping mechanisms adopted by women living with breast cancer and their spouses.

While considering all the challenges and crisis that the diagnosis and treatment of breast cancer might have had on the existing spousal, it was pertinent to elicit information from the people affected with breast cancer and also propose to them adoptable coping mechanisms. This is pertinent as this is addressed in the last objective of this study.

As revealed in the study, the advent or incidence of breast cancer on the woman heralded a lot of changes in her physiology, emotions, relationships, and her ability to discharge some roles and responsibilities. As such, the partners who were closest to them bore the resultant burden. It now behooves on the man(husband) to adjust to this challenge in the relationship, and ultimately cope, as it was narrated by some participants below:

> He knows am always up and doing, so, for me not able to do all those things, it means am seriously sick,thus with that he has no choice than to cope and adjust **(IDI, WLBC, Age 50, Post-Diagnosis).**
>
> You know we are not children of nowadays. A man of over 50 years is not a youth or a kid, therefore my husband had been trained on how to do house chores from his childhood. So, he is used to it and very happy doing it. At least he was not the one doing the house chores before, and now that I am sick, that was when he started doing them. **(IDI,WLBC, Age 45, Post-Treatment).**

The WLBC and their spouses gave their life-experience coping mechanisms, which could be adopted by others. These coping mechanisms were recommended for spouses of women living with breast cancer. The salient points are highlighted with the adjoining narrations, as presented below:

1.**Genuine love**	Spouses can cope with life before or after breast cancer treatment when there is genuine love between them. No matter the circumstance they should bear it together. The man could also have a critical ailment, and he should also remember that the woman did not pray for sickness, so he should please bear it with her **(IDI, WLBC, Age 37, Post-Diagnosis).** Couples should always remember what tied the two of them together, which is genuine love should be focused, never listen to side-comments from friends or any relative. Secondly, they should adhere to whatever they were asked to do by their doctor. Thirdly, prayer does everything, they should both pray the more **(IDI, Spouse of WLBC, Age 33, Post-Diagnosis).**
2.**Faith in God**	Despite the fact that my spouse does not go to church as such, he has better faith in God than I. Therefore, I implore other spouses to increase their faith in God in order to cope with life after breast cancer treatment, and in every aspect of things that surrounds breast cancer **(IDI,WLBC, Age 43, Post-Diagnosis).**
3. **Feign the presence of the disease**	Men can cope if they can erase it from there mind that their wives are having health issues, by this, their love would be like when they first met each other **(IDI, WLBC, Age 40, Post-Diagnosis).**
4.**Avoid negative social peers**	If the spouses especially the husband is not too social, they will surely cope with life after breast cancer treatment. Being too social will make him mix up with unbelievers, and this will definitely make him to misbehave at home **(IDI, WLBC, Age 47, Post-Treatment).**
5.**Marriage is a life journey**	They should all know that marriage is for better or worse, and it can happen to anyone amongst them. So, whatever is happening to one of them is happening to the second one. Marriage is a life journey and it must continue till death do them part. They, should learn to endure one another and take care of one another, no matter the circumstance **(IDI, Spouse of WLBC, Age 47, Post-Diagnosis).**
6.Summon courage	You know he is my husband, if he did not cope, I would have seen it on him and he would have abandoned me. He stayed with me for three weeks and abandoned his business. I therefore implore men to do so with their various wives with breast cancer. They should summon courage to face the challenge, and I know with God on their side who sees their concern and courage, they would conquer the trial. Then they should be move closer to God in prayer, all will be well **(IDI, WLBC, Age 48, Post-Diagnosis).**
7.**Another wife is not an alternative**	They should understand themselves and husband should be ready to be of help to his wife all the time. He should not plan to have another wife because he does not know what would happen to the other woman. After all, he can also be sick with any form of ailment **(IDI, Spouse of WLBC, Age 51, Post-Treatment).**
8.**Confide in family and friends**	They should have trust in their God for divine, healing of their wives. Secondly, they should not face the challenges alone, they can confide in their best friend or family member for moral and financial support **(IDI, WLBC, Age 37, Post-Diagnosis).**
9.**United we stand, divided**	Spouses should team up to fight the battle of breast cancer. 'United they win, divided they lose', that is the slogan to cope with life before and after breast cancer diagnosis and treatment. Husbands in particular should continue to love their wives despite the wife's inability to be

we fall	herself due to the illness **(IDI, Spouse of WLBC, Age 57, Post-Diagnosis).**
10**. Be strong for the woman**	My first coping strategy is to behave like a man, you know men must not behave like women. That is, I must be very strong, with a stronger heart. Then I must not relent in counseling her, I need to play and relate with her more than before. .By getting closer to her, we can both cope with the health challenge **(IDI, Spouse of WLBC, Age 56, Post-Diagnosis).**

Similarly, the following coping mechanisms were recommended for the Women Living with Breast Cancer:

1.**To put one's mind off the problem**	Taking things easy no matter what anybody says, either, family member or so called health worker. Secondly I have made up me mind that I will not engage in any deep thinking, though it is not easy and there is no way one will not think when you see other people in good health. Butjust putmy mind on God for perfect healing being the only way of survival **(IDI, WLBC Age 37, Post- Diagnosis).**
2. **Make up one's mind to make it in life**	I have made up my mind to make it and survive this breast cancer. Also I have put my mind at rest and on God. Since the very day the doctor told me about it, I have decided not to go to shop, no matter how buoyant the sales is. My concern is just to have good health again. Also, with God and my husband on my side. **(IDI,WLBC, Age 43, Post-Diagnosis).**
3**. Spiritual solace and succor in God**	Promises of God through his only Son that we shall have tribulation, but we should be of good cheers, He has conquered the world. Am very sure of overcoming this health challenge, in as much as Jesusovercame every challenge, I will also overcome mine. Any condition one finds his/ herself should be taken and accepted by faith, this will make the situation lighter **(IDI, WLBC, Age 50, Post-Treatment).**
4**. Others are making it (that is, being healed permanently)**	I so much believe in God that I will rise and be healed totally from this breast cancer. Also mere seeing some breast cancer patients who had been successfully treated without being terminated by the diseases, I would also make it **(IDI, WLBC, Age 57, Post Treatment).**
5**. Husband's presence and support**	My Husband besides me..Then having Jesus is the major coping strategy **(IDI,WLBC, Age 49, Post-Treatment).**
6. **Prayer and faith in God**	My faith in and prayer to God is that after this surgery and other subsequent treatment, all is and would be well with me. So my coping strategy is prayer and believe in God. God on my side, victory is certain **(IDI, WLBC, Age 47, Post-Treatment).**
7. **Confidentiality**	Confidentiality about my health condition is one of the coping strategies. No one knows about it in my community except those that are extremely close to me e.g. my pastor. Then, having Jesus is the major coping strategy **(IDI, WLBC, Age 47, Post-Treatment).**

Furthermore, in order to enunciate how the people affected by breast cancer can cope, respondents from the quantitative survey provided different open-ended responses as depicted in Figure 4.5.

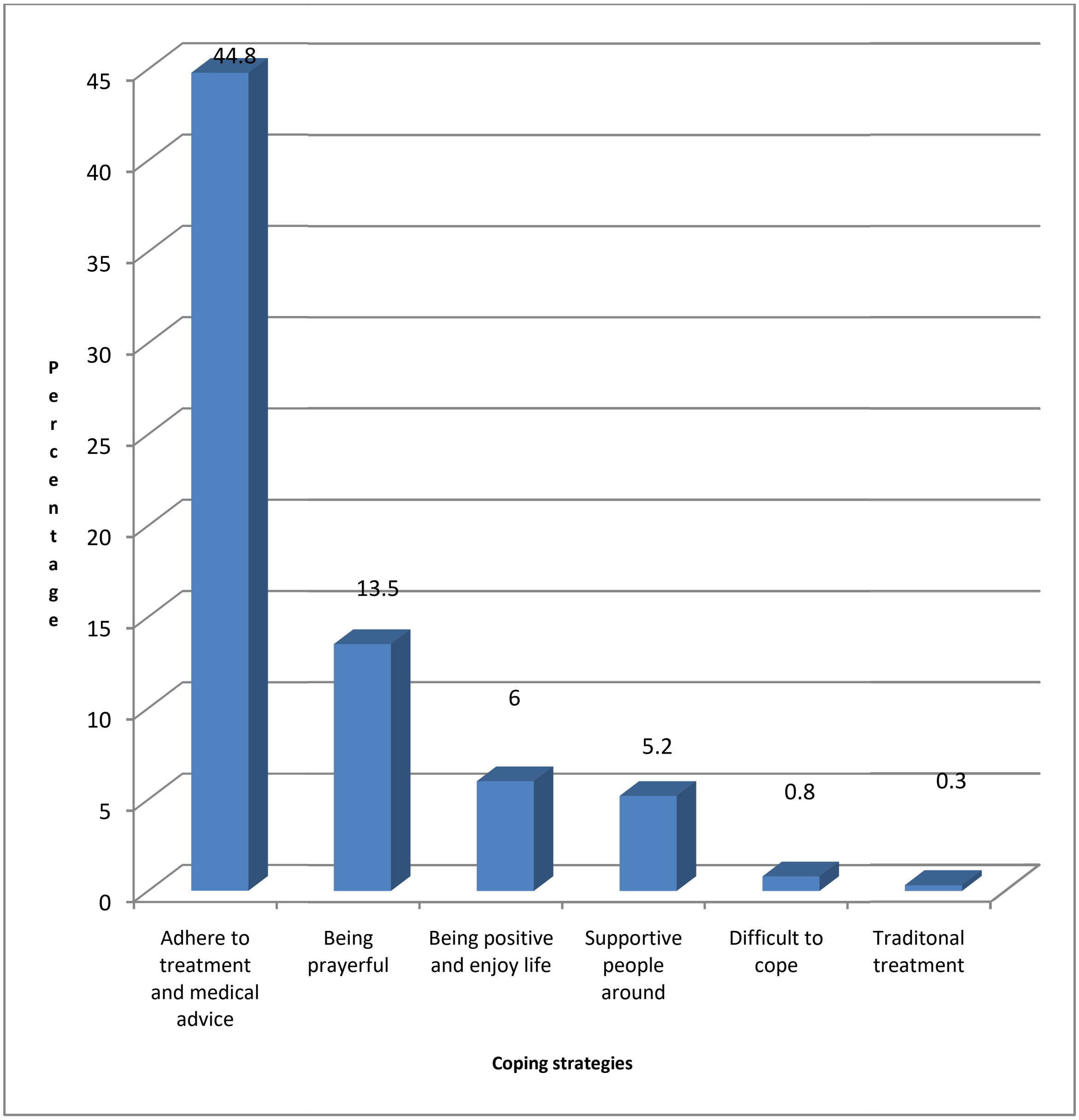


Fig4.5. Respondents' view on the coping mechanism for the woman living with breast cancer

The figure 4.5above gave the highlight of responses on how a woman living with breast cancer can cope with breast cancer and about half of the respondent (44.8%) proposed that the WLBC can cope by adhering to treatments and other medical advice. Others proposed that the WLBC should be prayerful, be positive and enjoy life and that they should have supportive people around.

Table 4.19 depicts the open-ended response as provided by the respondents on how the husband of the woman living with breast cancer could cope with the challenge and assist the wife to cope with the challenge. From the table about one-third (28.6%) gave the advice that the man should be supportive. Other coping advice were that he should show the woman love, take her for treatment, not to stigmatise her, and give words of encouragement.

Table 4.19: Respondents view on the coping mechanism for the spouse of the woman living with breast cancer

Response	Frequency(N=660)	Percentage (%)
Be supportive	189	28.6
Show her love	68	10.3
Be prayerful	34	5.2
Taking care of her	96	14.5
Take her for treatment	17	2.6
Not stigmatize	26	3.9
Word of encouragement	9	1.4
Understanding each other	23	3.5
Advice and counselling	1	0.2
Counselling	3	0.5

Source: Fieldwork, 2017

4.9.1 Role that the Government, Medical Professionals and Community Members can play for Spouses to cope with life after breast cancer treatment

Both the participants and respondents provided different insights into how the government, medical professional and community members could provide supportand this would provide coping mechanism for the woman living with breast cancer and her spouse.

The WLBC and the spouse had several concerns, and pointed out ways in which different groups of persons and stakeholders could help them cope and live optimally after the diagnosis and treatment of breast cancer. Below are some narratives as elaborated by the concerned individuals:

> Government should please create more awareness programme for woman to know about breast cancer, we all know they are really trying but they should put more efforts. Government should subsidize breast cancer treatment fee, as we all know that the fees are too expensive for the masses. An ordinary Nigerian spending N100,000.00k within three weeks' interval,should know that she is in real trouble. NGO's and well -meaning individuals should also come to the aid of women living with breast cancer. Health professionals should not relent in their advice and encouragement given to spouses living with breast cancer. As we all know that good counsel from health workers can sustain a patient for years aside from money, because money is not everything. People in the community should not mock or stigmatize women living with breast cancer because no one knows tomorrow. Instead they should rally round such person and help her with whatever they have:money and prayers **(IDI, WLBC, Age 49, Post-Treatment).**

> Government should please provide for the patients everything needed in the hospital, like standard equipment, drugs, adequate health workers, etc. so that anyone who is in need of treatment could get it. Not only the rich people needs good treatment, common man also needs it. Medical professionals should not delay treatment; they should act fast whenever a patient is in the hospital for treatment. Likewise, they should not hesitate to know their patient one on one. In case the patient is having psychological problem, they should be there for such patient through their advices and love. Lest I forget, government should also subsidize drug and treatment fees, they should know that treatment fee of breast cancer is very high and only the rich people can afford it. Even the rich people eventually travel abroad for treatment. People in the community should fear God by loving women with breast cancer, they should also have feelings for them, because nobody knows tomorrow, they too can be in a similar situation **(IDI, WLBC, Age 37, Post-Diagnosis).**

> People in the community should change their orientation towards their health, because everything is not about the government. They should pay attention to their personal hygiene. Secondly, live a good life style. Then, they we should support people living with breast cancer in every way they could, and not to stigmatize them or run away from them totally. Government should employ more

> professionals, though they are trying, but we need more health workers. We need more facilities that can treat cancer, because I noticed that it is only University College Hospital and very few hospital treats cancer in Nigeria. Government should build hospitals all over Nigeria where cancer can only be treated, and subsidized cancer treatment should be made available, fee because the treatment fee is too high, only very few can afford it. My plea goes to well to do people in the community to come to the aid of people living with cancer's aid instead of spending their money on unnecessary things. NGOs, Big companies should assist, because many people are dying. Medical practitioners should continue to go for more training and seminars here in Nigeria and Abroad through the government. They should not go for strike anyhow, instead they should liaise with government and solve their grievances amicably in order to save the patient's lives. Government should pay health workers on time, no one can work with empty stomach **(IDI, Spouse of WLBC, Age 48, Post-Treatment).**

> Government should make available medical equipment needed in our tertiary hospital for women with breast cancer to have cheap treatment. Also, the 'big-guns' in our society should also contribute by donating to the hospital for better treatment of breast cancer patient. Instead of taking our money to abroad via stealing, they should care and save people's life. Though we all know that they don't come for treatments in our local hospitals, they would rather go abroad for treatment abroad. They should extend their hand of love to we Nigerians that have no opportunity to go for treatments abroad. Medical practitioners should wake up to their duties afresh, they should stop relating to patients as if they were not created by God. Showing love to patients is a major task required from them, they should also regularly upgrade their knowledge about breast cancer treatments. People in the community should show love whenever they get to know that anyone around them is having breast cancer, instead of gossiping around or molesting such woman. This is because no one can tell what will happen to him/her, it may be their turn. Spiritual support is not left out from what is expected from community people. Moral support is another thing that I will like to talk about, they should not stigmatize any woman with breast cancer. They should erase the belief that it is contagious, it is not. You know ordinary malaria can kill as well **(IDI, Spouse of WLBC, Age 56, Post –Diagnosis).**

The above narrations are summarily highlighted below:

A. Government

1. Government should provide standard equipment, drugs and adequate competent health worker.
2. Government should subsidize drug, diagnosis and treatment cost, as these are very expensive. Many could not afford it.
3. Government should create more awareness programmes like that of HIV/AIDS and family planning for women to know about breast cancer.
4. They should fund research in order to discover the cause of breast cancer as well as discover less invasive diagnosis and treatment.

B. Medical Professionals

1. They should work with empathy and listen to the concerns of the WLBC and their spouses.
2. Medical researchers should commit to more research endeavour in order to discover permanent treatment to breast cancer
3. Medical professionals should organize seminars to enlighten, educate and encourage WLBC.
4. Medical professionals should organize awareness and sensitization programmes to the general public about breast cancer.
5. They should do all within their ability to let the patients survive.
6. Research into breast cancer vaccine.

C. Community Members

1. They should empathise with the WLBC and their spouses,because nobody knows what can befall them in the nearest future.
2. They should encourage WLBC, rather than talking ill and stigmatizing them

Similarly,Table 4.20 is a representation of the different open-ended responses of the community members (respondents) on how the above listed stakeholders could provide support and the resultant coping mechanism. This included: being supportive, showing them love, giving the woman a sense of belonging, not stigmatising them, amongst many other suggestions.

Table 4.20. Respondents view on the coping mechanism to be provided by the Government, Medical Professionals and Community members

Response	Frequency (N=660)	Percentage (%)
Be supportive	220	33.3
Show her love	33	5.0
Give her sense of belonging	6	1.0
Assist her	30	4.5
Not stigmatise her	62	9.4
Be prayerful	36	5.5
Take care of her	50	7.6
Sharing responsibilities	2	0.3
Counselling/Social support	4	0.6

Source: Fieldwork, 2017

4.10 Case Studies

4.10.1 Healthy spousal relationship (I)

I knew absolutely nothing about breast cancer before my wife was diagonised, not until we came to UCH early this year (2017). The doctor at the ultra sound room was the first person that told her, before the doctors at Surgical Out-Patient(SOP). Thereafter, she was counseled by the doctors and they were giving her a follow-up phone call. I went to search for more information on the internet, and I kept many information away from her. For example, when she was given one of the report where they wrote mass, I told her that it was an ordinary mass that was written, and that it was not a tumor or cancer. During the diagnosis period, I never allowed her to stay alone for a long period, in order to avoid any hypertensive thought. During the threatening chemotherapy and the week's long effect of the treatment, I was always with her. I undertake the chores because of the effect of the chemo and I have been able to adjust well to this responsibility. Before and after the treatment, whenever we had misunderstanding, whether she is right or wrong, she will stylishly apologize. Once in a while I make move to beg or settle with her.

My relationship with my wife is very cordial I call her pet names such as 'Dear'. We also have a challenge; my wife has not given birth for me. It has not diminished my love for her. I usually enjoy watching football at viewing center, but now I have reduced the number of hours spent on leisure.

Another thing is that, despite the fact that my wife married late, she was a virgin, I can say that she is not exposed at all, which also affect her attitude to sex. I can say that her libido is very poor and her orgasm is rigid. Her sex style is just to lie down on the bed, and I do whatever I want to do and get up. I have spoken to her about it, but she has changed slightly, but I have concluded that, that is just her nature.

I used to touch and play with the breast during our sexual play. It was during such play that I notice some hard part on her breast. She initially ignored it and said that, maybe because she had not yet suckled a baby, that was the reason for the hardness. I was that one that insisted that she should go for a diagnostic test/ mammogram, and before the result came we had already gone to UCH for proper diagnosis and examination.

Our relationship with God, family and friends is very healthy. I see many years ahead of us as husband and wife, with beautiful children coupled with upliftment.

The wife also added that her husband was listening to a health programme on the radio, he then phoned the presenter (live) and narrated the symptom he saw on my breast, coupled with the several miscarriages she previously had. The health worker then advised us to go for a diagnostic test. The wife also narrated that her husband had been faithful her and he keeps encouraging her that the God that gave Sarah a child at old age would also give her, though we married very late, with several miscarriages, and now having breast cancer. I believe that it is part of war we are bound to both face in life.

The above box explains the role of breast foreplay in sex, as it helped the spouse to detect that there was a hard thing in the wife's breast. It also explained the importance of creating more awareness for people to hear and know about Breast Cancer, as this assisted the couple to match the information heard with what was observed. Furthermore, the various health challenge was not a hindrance to the existing spousal relationship pre-diagnosis post diagnosis and post treatment. Despite the individual difference they were able to sort it out, this was majorly because of the love and commitment to each other.

4.10.2 Healthy spousal relationship (II)

We noticed a swell or a growth under her breast, she quickly went to a hospital where she was asked to do a histology test and it was revealed that it was cancerous. Therefore, we were referred to University College Hospital(UCH) What I know about breast cancer is that, it is a deadly disease with no cure except divine intervention.

I also heard that if one is affected and treated at an early stage with the removal of the total breast through surgery, the woman can survive. I have an example from her Aunty who happened to have breast cancer fifteen (15) years ago and was operated her in UCH, she is very much alive, hale and healthy. We even accommodated her in our house, and we stood by her throughout her stay in the hospital.

When the doctor told us about my wife's diagnosis, it really affected me because she is my partner and best friend (sobbing). My wife took the diagnosis report in good spirit, maybe because she is also a health worker. Nonetheless, I do follow her about for all the diagnosis tests because I do not want her to hear any report that would break her down. I have told the doctor not to tell her anything serious, rather, they should be telling me instead, I have my style/way of passing across serious matters to her.

As I earlier said, we are very close since we got married, I have never regretted marrying her. For instance, If I should inform her of any journey, she will be phoning me without rest, until she sees me. In all my plan once she in support, the plan would be successful, and the otherwise too. Infact, my wife is a very good woman, if I should stand in the presence of Almighty God, I will categorically tell him that my wife is truly a child of God, trustworthy, honest, faithful, prayerful, hardworking. Infact, I don't know how to quality her again and I sincerely pray that all my sons would marry someone like her.

Whenever we are discussing at home, it is forbidden for anybody to be pressing phone, we usually enjoy our company.

As regards her diagnosis and future treatment, she had wanted to spend part of her money, but I have insisted and assured that it is my duty as her husband.

Spouse of WLBC, Age 56, Post –Diagnosis, 25 years of marriage

From the box above, the concerned couple seem to have knowledge about breast cancer which made the wife to be able to absorb the shock of the diagnosis. Also from the narration, it can also be deduced that the breast cancer was hereditary, which was reflected in the instance of the wife's aunty that was treated 15 years prior the diagnosis of this woman. Also from the narration, one could perceive the expression of love in between the partners, which was reflected in his utterances.

4.10.3 Unhealthy spousal relationship (I)

> I have heard that breast cancer is a very dangerous and deadly disease. I also heard that one can be infected spiritually.
>
> One day when my wife was undressing, I saw a spot on the breast and a bit bigger, then later it became painful on her. I also noticed a strange movement on her body like worm. We then made some enquiries, we were then told that it was breast cancer.
>
> Before we eventually came to UCH for treatment we had gone to several places such as Igboho, Cotonou etc searching for supernatural cure and we spent a lot of money.
>
> I have spent so much money that I have sold some of our properties, even my family members who are residing at Abuja and London had given us money for the treatment.
>
> I am coping well with the health condition, left for the fact that I am not okay with her character, she believed that I have 'hand' in her sickness due to some misunderstanding we had. I told her to go to any length to seek for revenge, if she still nurses the notion that I am the source of her problem. The issue at hand is connected to the fact that I am a carpenter by profession, and I have lots of female customers, and my wife believes that I am having secret affairs with them. I have tried as much as possible to explain the truth to her, but she refuses to believe me. Thus, no matter my disposition to her by being supportive, she still has a biased mind towards my gesture. The misunderstanding aggravated most especially when the Breast Cancer worsened.

The above box explains the believe that mystical power could be attributed to the cause of the health challenge, hence they sought for supernatural sources to cure the ailment. However, this remedy did not lessen or reduce the extent and progress of the deterioration. In addition to this, lack of trust which is fundamental was missing in this spousal relationship, this led to the inability of the wife to appreciate the support provided by the partner.

4.10.4 Unhealthy Spousal Relationship (II)

The journey started in 2002 when she delivered her second to the last baby, she had a boil on a breast and was treated by a doctor, and she was okay.

Thereafter, I noticed a part became hard, we began to pray about it. The thing did not dissolve, we went to a private clinic, also consulted some nurses around our house for treatment. She even travelled to our home town to meet her elder sister who has knowledge of administering drugs (traditional) for healing sick people, yet there was no difference. Thereafter, she came back to Ibadan, we then came to UCH this year (2017). In all the places she went, nobody told her that she had breast cancer until she came to UCH.

Whenever she was coming to the hospital and I tell her that I want to follow her, she would discourage me. At the moment we are both unhappy, as she is unable to go to the market. For all the diagnosis process at UCH, we had both been taking care of the financial demand.

We do relate as husband and wife at home, but our relationship is not cordial, we use to have divergent views and opinions.

Her personality characteristics is excellent but her personal habit is questionable. She always ensures that her will and opinion comes to pass. For instance, we presently attend different churches, before now we usually attend my church together. Therefore, our children attend different churches and there is a spiritual vacuum in our relationship. However, as a man of integrity I do not want to use that as an excuse so as not to be a responsible father. Our communication pattern is very poor. The different denomination is the cause, whenever we want to discuss on anything, she will mention her church and it does not go well with me, then the discussion ends. Furthermore, she did not let us get married legally in my church, this has prevented me from taking the holy communion in my own church.

Her attitude has even affected the children, they view her as someone that is upright, while I am seen as the bad person. She does not accommodate my family member. Generally, I am tolerating her.

Spouse of WLBC, Age 57, Post diagnosis, 26years of marriage

The box above seeks to explain the nature of relationship that exist between the partners, wherein the wife for reasons best known to her does not encourage her man to follow her to the clinic. Both of them have divergent opinions and views to life.

It is also important to note from the narration, that they both noticed this problem in the year 2002, and she just came to UCH for proper care in the year 2017. This is an example of being careless with one's health and this resulted in late presentation. Furthermore, before she came to UCH, she had gone to different places for care, which was obvious that they were the wrong place for this kind of ailment.

From the various case study narrations, the spouse (men) were more willing to shed light on particular issues that they feel makes them to perceive their relationship as healthy or unhealthy.

4.11 Discussion

This section synergised the results of the study in line with the previous findings in the literature.From the knowledge of the people about breast cancer, it was revealed that majority of the respondents had heard about breast cancer, which meant there was great awareness about the existence of the disease. Findings from the study showedthat, it wasmostly publicised in electronic and print media, as different radio programmes propagated the awareness about breast cancer. However, the responses from the participants revealed that the quality and content was not sufficient enough for them to note the signs and symptoms and take immediate precautions. This revelation was quite similar to the study conducted by Nelson, Kehinde, Oyero, Williams and Soola (2014),that the content and quality of the awareness in the electronic media was not detailed enough, as this also applies to details in the print media, (Nelson and Salawu, 2016). While providing awareness through the media, findings from the study revealed that there were evident reasons why the type, nature and associated symptoms should be explained to the public. As they could not notice the most trivial sign or subsequent development of the disease, as such they usually brought a late presentation to the clinic,as this affected the type of treatment and even the success rate, as also corroborated in the study ofKamińska,Ciszewski, Łopacka-Szatan, Miotła, Starosławska and Menopauzalny(2015).

Strikingly, most of the respondents in this study reported that they had heard about breast cancer, but were not well informed about the symptoms and the extent to look out for, which was similar to the study conducted by Oladimeji,Tsoka-Gwegweni, Igbodekwe, Twomey, Akolo, Balarabe, Atilola, Jegede, & Oladimeji. (2015). It was also important to note in the study that, inadequate in-depth knowledge about the symptoms led to late presentation of the disease for medical care, which seemed to be a repeated pattern of the studies conducted by Adesunkanmi,Lawal,Adelusola andDurosimi(2006); Oladimeji *et al*. (2015);Asoogo and Duma(2015) and Rivera-Franco and Leon-Rodriguez (2018). This has led to high rate of death among these group of women, as the disease was left to deteriorate before presentation at the clinic for treatment. Consequently, in the study area, some of the women living with breast cancer were eventually referred for palliative care because their disease presentation was poor and they were referred to care till their eventual demise, which is similar to findings in the works of Prigerson, Bao and Shah

(2015); Maree and Mulonda (2017). In essence, the palliative care unit had more patronage because the WLBC had late presentation both for diagnosis and treatment.

In a related manner, in this study, the impact of the religious groups in educating their members seemed to be at a lower rate, as religious groups were supposed to encourage medical help seeking behaviour among their adherents. In essence, religious groups were expected to intensify awareness about breast cancer among their adherents. This trend seemed to be a continuity in the religious leaders' laxity as noted by Oladimeji *et al.*(2015) in properly informing and educating their adherent about health issues, particularly on breast cancer.A step further revealed that the comprehensive awareness and knowledge about the disease was not yet expounded in the educational curriculum of the secondary school students in the study area, as some respondent posited that they only heard about the broad concept of cancer in their biology classes. Therefore, as suggested by Bhandari Thapa,Dhakal, Bhochhibhoya, Deuja, Acharya& Mishra(2016), Mafuvadze *etal.* (2016), Carlson-Babila (2017) this and other major health issue should be given extensive and wider coverage in secondary schools' health and science curriculum.

In the literature, breast cancer has been termed to be a serious health condition and also remained the commonest and second leading cause of death in women (Siegel, Kimberly, Miller & Jemal, 2018; America Cancer Society,2018). The findings further showed that breast cancer is a very serious health challenge among other health conditions. As a matter of fact, any woman stands the risk of getting the disease with those whose family had the history of breast cancer having a greater risk of getting the disease and/or transmitting it to their off spring. This finding is found in tandem with Hiatt and Brody (2018) and Lakshmi, Raju Athira, Teena, and Vijayalakshmi (2012) that breast cancer is hereditary among women.

Other risk factors of breast cancer found include women with high socio-economic class due to their exposure to likely inducedhormone related to parityand hormonal contraceptive use, life style and nutritional factor. This finding supports the studies of Akinyemiju, Pisu, Waterbor and Altekruse(2015), Hiatt and Brody (2018), Fiolet, Srour, , Sellem,Kesse-Guyot,Alles,Mejean,Deschasaux, Fassier,Latino-Martel,Beslay, Hercberg, Lavalette,Monteiro, Julia,and Touvier(2018) and Lakshmi *et al.* (2012) that induced hormone related to parity and hormonal contraceptive use, life style and nutritional factor among women with high socio-economic status stand the risk of breast cancer more than those in the low socio-economic status category.

It was observed that different symptoms such as pain or soreness in the breast, lump in the breast, change in the shapes of the breast were most common symptoms of breast cancer. In a way, this finding corroborates American Cancer Society(2015) and Cancer Council Australia(2016) that different symptoms of breast cancer are observable among affected women in a population.Despite the fact that pains, soreness and lump in the breast are the symptoms of breast cancer common among the affected women, it was found that they seem not to have a sense of urgency to the health problem in this study area. This result is similar to Caplan(2014) and Rivera-Franco and Leon-Rodrguez (2018) that although the symptoms of breast cancer could affect the shapes of the breast due to the lumps in it, yet most women do not give it the urgent attention required for its treatment. This also suggests that most of the affected womenviewed the signs and symptoms as trivial and took them with levity. They assumed that these symptoms were health conditions that would ease out with time, and apparently this was as a result of their negative symptom interpretation.

From the foregoing, the uncertainty about the reality of the symptoms on themas noted by Mehrabi, Hajian, Simbar, Hoshyari and Zayeri(2016) could attract different social interpretation such that the health condition is viewed as a spiritual attack, and they sought for spiritual solution and traditional therapy for its cure. Indeed, most of the affected women were found to be using traditional medicines for the treatment of the health condition since the cause was attributed to spiritual attacks. This finding corroboratesTate(2011), Donkor (2015) and Samuels, Daher, Tuker, Nimri, Rassouli and Silbermann (2017)findings that those who attribute the cause of breast cancer to spiritual attack are more likely to seek spiritual or traditional therapy than those who attribute its causes to medical abnormality in the body.This is indicative that those who first sought traditional therapy before clinical or medical help had lower success rate when compared to those who sought for medical help from the onset of the condition. This is a similar record with Johnson, Park, Gross and Yu (2018) who stated that these groups of women who seek traditional therapy are more predisposed to deteriorated health condition when presented at the clinic than those who sought clinical help at the initial stage.

Findings showed that majority of women respondents had high level of awareness for breast cancer screening and they were also willing to go for it and in actual sense they knew that hospital was the best place to go for such. However, some of them were aware and seem not to be willing to go for the screening as revealed by 10.0% of the women who gave the reason, that they do not pray for the sickness and because they do not presently have it. Thus, there was no need to go for any screening. This isfound in consonance with Amoran and Toyobo (2015) who observed that most women do not go for breast cancer screening as they ought to do.As a matter of fact, this attitude negates WHO (2017) guideline and advise that every woman of any level of risk should make it a point of duty to go for breast cancer screening.

As WHO (2014),Birhane,Alemayehu, Anawte, Gebremariyam, Daniel, Addis andNegash (2017) and America Cancer Society (2018) pointed out, there are several ways of diagnosing breast cancer in women. Findings from this study further showed that different ways of diagnosing the presence of the disease existed, which ranged from self-breastexamination and mammogram to ultrasound. Indeed, there is a need for regular checkup of the breast in order to manage its devastating effects, which could only be achieved through regular screening. This is necessary because any woman from the age of 20 is at risk of the disease and regular examination of their breast could go a long way to reduce the potential risk of its effects at the early stage (Umbreen, Jabeen & Riaz, 2017). This translates to the fact that women do not need to wait until they are through with their monthly period when the breast could be slightly swollen.

While majority of the respondents had the knowledge of the disease, chemotherapy (48.5%) appeared to be the most subscribed treatment option. Meanwhile, the administration of chemotherapy was found to be a function of the risk assessment by the doctor. Put differently, chemotherapy may not be the most suitable treatment options for all cases (Schmidt, 2014).But in this study,because of the need to abide by the doctor's prescription by the patients, chemotherapy was the most occurring treatment option, followed by radiotherapy (38.2 %) and mastectomy (35.6%)which the American Cancer Society (2018) supported as one of thetreatment options with less predisposition to risk. Despite these, about 32.0 % of the respondents still subscribed to traditional medicine for the treatmentof breast cancer. In a related manner, it is worth noting that,allthese treatment options do not function without its attending effectson the woman.As the respondents gave the following outcomes, such asbody disfigurement (40.2%), body pain (46.1%)and psychological trauma (32.4%) as also shown in other studies by Smoot, Wampler and Topp (2009), Binkley,Harris, Levangie, Pearl,Guglielmino,Kraus and Rowden(2012)

The role of the spouse in the diagnosis of the disease cannot be glossed over. During the intimate touch of the man on the erotic organ which is the breast during intimate activity, the man was bound to notice any change in the size or tenderness of the breast. Earlier studies have shown that the spouse of the affected woman with breast cancer is most often the first observer of the changes in the breast (Levin and Meston, 2006; Emilee, Ussher and Perz, 2010; Zierkiewicz and Mazurek, 2015). In this study, it was found out that 'sex-induced diagnosis' or 'lover's self-breast examination'wherein the spouse of the woman first observed any change in the breast of the woman as a result of romantic play with the breast helped tremendously.It was also convenient to state that this process could be made possible as a result of a real or assumed healthy spousal relationship, wherein both partners enjoyed sexual intimacy and they both navigate every part of the body during foreplay and sexual intercourse.

Following the diagnosis of disease, there are many reactions especially from the spouse and the woman affected with breast cancer (Burgess, Morris and Pettingale, 1988). Findings revealed that different reactions which ranged from expression of shock, feelings of life-threat, bad, afraid and sadness to disturbed heart were the responses of spouses to their wives' diagnosis of the disease. While some coped by suppressing their emotions, feigned the existence of the ailment, some decided not to talk about the issues or discussing the issue with a view of proffering solution to the health problem. Apparently, the period of the discovery and dealing with the report of the diagnosis seemed to be a challenging period for the partners as some of them sobbed during the interview in this study,as also noted in earlier studies of Zahlis and Lewis(2010); Li,Yang, He, Wang, Zhang and Zh (2015); and Keesing, Rosenwax and McNamara (2016).

Some of the aforementioned reactions were attributed to some misconception that breast cancer is a killer disease, while others stated that the disease can only be managed by rich people. The knowledge of this people also agrees with the report of Formenti, Arslan and Love (2012) that breast cancer is the most costly disease in US because of its incidence and the amount spent on diagnosis and treatment. As such, the respondents and the participantsin the study were apprehensive of the cost to be incurred in managing the disease, as most of the participants were not financially buoyant. This also affected the time the women came to the hospital for diagnosis and treatment. In the same vein, 71.4% of the respondent in the quantitative survey indicated that breast cancer is the commonest cause of death, which is similar to the submission of Elgaili, Abuidris, Rahman, Michalek and Mohammed (2018) that, breast cancer is a world-wide disease resulting in many deaths, even in Sudan and other countries. These and other reasons were attributed to the first reactions after the diagnosis report.

Nonetheless, the survey revealed that some individuals took the report with a strong heart and took the shock in good faith. This position was contrary to the general opinion and also opined by Zahlis and Lewis(2011);Zimmerman (2015)that spouses diagnosed with breast cancer would be affected and react negatively to the diagnosis. It was discovered from this present study that a few women diagnosed were able to handle the shock better than their spouses, which implied that being a male gender was not a function of being to better handle and absorb shock or crisis in life.

After the disclosure of the disease to the partners, followed by the first reaction after the diagnosis, it was also found that both spouses expressed worries and fears. The level of knowledge affected the ability of the WLBC to be able to handle the diagnosis report as also confirmed byHersch, Barratt, Jansen, Houssami, Irwig, Jacklyn and McCaffery (2014).This could also be attributed to the envisaged burden that the health challenge could or would pose on them individually and as partners, the fear of the uncertainty of the future, whether or not she would live after the treatment.These expressions were also corroborated by the submissions of Zahlis and Lewis(2010); Barros,Conde, Lemos, Kunz and Ferreira (2018) among others.

In spite of the expression of worries by the spouses, they tend to hide their worries and fears about the health challenge as also supported in the report of Neris and Anjos (2014). They did this by avoiding the discussion about it with their wives. The reason for doing this was to avoid the woman becoming too worried about it, which might lead to some psychological depressive mood and anxiety as submitted by Badger, Segrin, Dorros, Meek and Lopez,2007). On the other hand, the spouse(man) did this in order not to be seen as timid, thus they put up a bold-front when such issues were to be discussed with their wives. This disposition of the men had it advantage of relieving the heart burden of the WLBC, and the assurance that their men were strong for them. Similarly, the ability to speak out their fears and worries, made them to discuss the reality of the problem at hand with a view of proffering solution as confirmed by Zahlis and Lewis (2010); Li and Loke (2013). Furthermore, being able to talk about the problem lightened the heart of the WLBC and her spouse,which was a good strategy as also opined by Plata(2017), which further justifies the positive result of speaking out one's mind (problem).

Findings also showed that the spouses were fully involved in the diagnosis and treatment of their wives. The spouses followed the women to the hospital, some took time off from their places of work in order to attend to their wives. This is consistent with previous studies by Dorval *et al.,*2005, Zahlis and Lewis,2010,Keesing *et al*.,2016, that committed men were willing to identify with their women, as this corroborated the triangular theory of love which this study adopted. However, some men did not show any involvement or support during this period in the life of their wives. In the same vein, some women could not withstand the presence of their spouses during the clinic visitation.Thiswas attributed to the fact that the woman did not want her spouse to have full knowledge of the ailment or to bother himself with following her to the clinic. This is a deviation from the assumption of an healthy spousal relationship as opined by Dorval *et al*. (2005), Zahlis and Lewis (2010), Keesing *et al*. (2016).

Further finding revealed that WLBC and the spouse relied majorly on the doctors (oncologist) to know the nature, type and extent of treatment. The decision of the patient to allow the doctors to determine was hinged on the belief that the doctors knew better than they did and that they had no choice other than to follow the prescribed advice or instructions. Apparently, this showed that the patient believed in the knowledge of the oncologist. In a related manner, the stage of disease presentation at the clinic was usually late, as such, the doctor's choice of treatment prevails, as it was also observed in the work of Rivera-Franco and Leon-Rodriguez (2018). Their reliance on the doctor's information and treatment choice was necessary because, they(WLBC) needed immediate medical attention, and the paternalistic decision making model played out as noted by Emmanuel andEmmanuel (1992); Tariman, Berry, Cochrane, Doorenbos and Schepp (2012), which reflects that the patient cannot decide on treatment options by himself, rather, by the physician. As part of the findings from the quantitative study, 52.7% responded that breast cancer was curable. This general belief formed part of the basis for the people affected by this ailment to seek medical care and cure. This also informed their strong dependence on the doctor to choose the best treatment option for them.

This follows that every individual interacts with people around them. This also informed the reality that the woman(WLBC) and her spouse do not live in isolation. They relate with people around them such as their children, relatives, colleagues, religious group members, neighbor, community members (Kronke,Quesenberry, Kwan, Sweeney, Castillo and Caan, 2013). Again, it was found that the emergence of the health problem affected the relationships that the WLBC had with people around her, both positively or otherwise. While almost half of the respondents(44.1%) asserted that it would definitely affect the spousal relationship as this was also confirmed in a recent study by Hubbeling, Rosenberg, González-Robledo, Cohn, Villarreal-Garza, Partridge and Knau (2018).

The study revealed that no one can completely understand the personality of the spouse, but it only demanded that both tolerated each other. As a result of the diagnosis, the spouses tended to relate and behave in a more positive way in order to show love to their wives, as also supported by the findings in the study conducted by Zahlis and Lewis (2010). The study further showed that the spouses tolerated their differences even before the diagnosis, post diagnosis and pre-treatment. Personality traits that the spouses highlighted were both positive and negative, such as being well-mannered, submissive, enduring, suspicious, strict and stubborn. All these attributes are displayed by any typical individual in marital relationship which corroborates the findings on relationship explored by Noronha and Campos (2018). More importantly, the study revealed that the spouses of the WLBC had an improvement on their personality trait displayed to their wives, which was seen as a positive attribute to make the woman feel better and be healthy, as being corroborated by the study of Fletcher, Lewisand Haberman(2010),which indicated the man improved his attributes post-diagnosis in order to encourage the wife and to be seen as a responsible husband.

In a related manner, the narrated experience of the outcome of breast cancer diagnosis revealed that both WLBC and their spouses shared roles and responsibilities in the relationship before the diagnosis. The study revealed a change in the roles performed by the WLBC, such as child bearing, child rearing, doing chores, financial obligation, marital obligations; and that there was a role-shift after the diagnosis and even after treatment as this is in line the previous findings of Zimmerman (2015). The spouses(husband) reported that they were trying their best to fill up the gap by adjusting and assuming the role and responsibilities that the woman relinquished as a result of the diagnosis and treatment of the ailment, which is also similar to the findings of Neris and Anjos(2014) in their study. Furthermore, some domestic roles were taken up by some significant others in the family such as by the grown-up children, relatives, domestic help, this finding is supported in the recent study of Dsouza, Vyas,Narayanan, Parsekar, Gore and Sharan (2017),which revealed the role and contribution of significant others in similar instance.

Furthermore, from the study, in respect to child bearing,for those who had not yet given birth, both the WLBC and their spouses were quiet optimistic of having their children, as also noted by Hubbeling *et al*. (2018). That, despite the outcome of treatments, the partners were hopeful that this would not hinder their ability to procreate. But, this believe and assertion by the partners was contrary to the (respondents)community’s perception on the aspect of child bearing and on the view of who else can provide the help. They were of the opinion that the spouse(husband) should take another wife. This notion is in support of the Yoruba cultural belief that a man could take another wife to bear him children, if there are factors that are hindering the wife at home from bearing a child, as also affirmed by Nwosu and Friday(2015); Razak and Oladipo (2017)that another wife could assume that role and responsibility.

Further findings from this study revealed the aspect of sick role, which is a sociological term coined by Talcott Parson (1951),being a normative expectation of a sick person. The sick person (WLBC) experiences a breakdown in the effective performance of some her specific task and commitment at the workplace and the family. The sick role, being a transitional role, wherein the individual (WLBC) has the right to be exempted from duties by an obligation to refrain from normal day activities. On the other hand, the WLBC also has the obligation to seek medical attention and to recover in order to resume the roles (Parson,1951).Dsouza *et al.* (2017) observed that WLBC are most often than not,faced with many challenges in the family. Findings also revealed that the transitional sick role period in the life of WLBC affected spousal relationship adversely most especially in the discharge of responsibilities to the immediate family needs such as child bearing, child rearing, financial obligation, domestic chores and social outings.

Breast cancer has been categorised as a chronic disease (Varul,2010), and it is caused by several risk factors as revealed in this study and also corroborated by Hiatt and Brody (2018),with the appropriate treatments, the patient has to live with it andstay healthy as much as possible throughout her life time, which is termed 'normalisation' (Varul,2010). This is a situation wherein the chronically ill becomes a dual citizen in the word of illness and world of health. The WLBC try as much as possible not to totally depend on the doctor actively, that is when she had completed her treatment regimens, she then searches for information and delve into self-help to remain healthy as noted by Radley (1994).

Findings from the respondents on the sick roles of WLBC showed that majority of the affected women with breast cancer (84.5 percent) would seek formedical help. As a result of this, they assumed the sick role due for an extended period of time,as long as it would require to recuperate from the effects of the medical regimen. This suggests that most of the treatmentregimen received by WLBC from the hospitals could be painful and subject them to bed rest over time, while they had to stop going to work, attending to husbands and children's care. This finding is in agreement with Almeida, Comassetto, Alves, Santos, Silva and Trezza (2015) that most medical regimen for breast cancer are painful, which may result in weakness of body of the affected women over a long period of time before recovery.

Further findings revealed that there was a change in the communication pattern between WLBC and their spouses and the health-care givers after diagnosis. This is found in tandem with the works of Rimal and Lapinski (2009) and Yoon, Sohn and Jung (2016) that there is always a change in the communication patterns between the patients, doctors and their spouses after the diagnosis of diseases. This is suggestive that spouses communicated well with the patients before the diagnosis of the disease wherein there was a change in the communication patterns after the diagnosis of the disease. However, it was discovered that the communication pattern between the patients and their spouses improved after the diagnosis and treatment. This supports Li and Loke's (2013) study, that breast cancer would positivelyaffect the spousal communication relationship.

As Khoshnazar,Rassouli,Akbari, Lotfi-Kashani, Momenzadeh, Rejeh, and Mohseny (2016) noted, there is always a communication pattern that tends towards proffering solutions to health problems between female patients and their spouses. Findings also showed that the communication patternsof most spouses of the affected women were more on meaningful discussion with a view of proffering solution to problems in their relationship, most especially to the health problem. This suggests that they shared and solved their problems together through communication. Indeed, the roleof most partners in calling themselves pet-names also fostered their love, and made them to communicate freely, while some partners also each other by the names of their children.

Similarly, communication was found to be auseful medium for conflict resolution between partners. As conflict was inevitable in any given relationship which could be attributed to differences in views and perspectives to life. This finding buttressed the views of Overall and McNulty (2017), who maintained that every normal and healthy spousal relationship usually has some upheavals which would be resolved based on clear communication. For purpose of emphasis, the major source of conflict between the affected women and their spouses were mostly related to issue of finances,especially when the money expended on the diagnosis and treatment of the disease was significantly high.This confirms Dsouza *et al.* (2017) study that the economic burden of the disease was a major point of reference and a major source of concern. In addition to this, findings from this study revealed that non-adherence to medical advice by the affected women for the purpose optimal health and perhaps complete recovery, resulted into conflict between the couples.Ultimately,all these conflicts were usually resolved by identifying the cause of the problem, and seeking solution to them.

On the aspect of finance in the spousal relationship, findingsalso corroborate previous research on the financial demand exerted by the breast cancer diagnosis and treatment. For instance, Oladimeji *et al*. (2015) noted thatbreast cancer treatment needed a regular source of finance to give it the required attention. Of course, the findings from this study revealed that "breast cancer was not a common mans' disease", which meant,it is near impossible for a poor man to bear the cost. As a result of this, somepartners sold off their properties in order to fund the treatment of the disease which causedretardation in the development of the family. This confirmed a population-based registries study conducted by Jagsi, Pottow, Griffith, Bradley, Hamilton, Graff, Katz, and Hawley(2014) that an average amount of $2000 was being used for medical bills in a 4-year post-diagnosis experience, which made some individuals go bankrupt. In actual sense, such an amount is quite exorbitant for many women in a developing country like Nigeria. As such, for individuals who were not financially buoyant due to the financial commitment for the diagnosis and treatment, this adverselyaffected the existing spousal relationship.

As a matter of fact, it was found that both the spouse and WLBC sought for financial aid in order to assist and reduce the source of the conflict. The partners handled the financial burden by obtaining loans, selling their properties, subsidy provided by national insurance scheme(NHIS), pension and gratuity, pooling resources together/joint account. This also corroborates Jagsi *etal.* (2014) andDsouza *etal.* (2017) studies that the money expended on management of the disease most often resulted to great financial burdens for the patients. Because of the financial burdens, after the diagnosis,subsequent hospital appointments and visits were affected,for further treatment. As Altice, Banegas, Tucker-Seely and Yabroff (2017) noted, the inability to continue or finish up with the treatment regimen as a result of lack of sufficient finance may aggravate the health condition of the affected person thereby resulting to low success rate of the treatment.

In spite of the fact that the health conditions of WLBC are no longer as healthier they were before diagnosis, it was found that some spouses experienced no change in the way they spent their leisure time together, rather both spouses intensified it in order to show more love to each other. Conversely, the diets changed as the WLBC were given a dietary prescription which corroborates Breast Cancer Survivor Reports(2014);and Patel,Pathak, Patel and Sutariya(2018)reports that in order to reduce some risk factors and improve the health of breast cancer patients, there should be specific diets to be taken. Therefore, the partners seem to be eating the same kind of food together with the WLBC even though the diets are not going well with the partners,while some spouse could not eat the same diet with their wives.

Findings also showed that there were changes recorded in the amount of time spent together as partners. It was revealed that less time was spent on things enjoyed by the men separately in order to spend ample time with the wife. For instance,a man that loved watching ball in viewing centre had to stop this in order to spend time with the woman.Other changesnoted in the leisure activities included not being able to bathe together or attend events together as the WLBC had to wake up late. Hence, the sleeping schedule affected doing those things together. Indeed, the diagnosis and treatment of the breast cancer affected the leisure activities done together. These changes confirm Zahlis and Lewis (2010); Yusoff, Yap and Ahmad (2012); Zimmerman (2015) that most changes in the leisure time of couples whose wife is affected with breast cancer, are significantly affected in spousal relationship.

Sexual relationship is seen as key in any spousal relationship. It is an expression of love through the arousal of genital, breast and other erotic parts of the body (Malti-Douglas,2007; Levin & Meston, 2006). Findings revealed that the spouses enjoyed fondling with their wives' breasts before or during sexual intimacy. As a result of this foreplay with the breast before or during sexual intercourse, most men discovered the lumps in the breast. This is suggestive that the act is advantageous to a healthy spousal relationship, therefore, the spouses may be encouraged to continue to enjoy the unaffected one during sex. This is similar to the report by Zahlis and Lewis (2010),that, there was change in the sexual intimate relationship of the partners, which was partly attributed to change in the woman's physical body.

Sexual activities before the diagnosis of breast cancer was found to be normal and pleasurable in spousal relationshipas also supported by Vess, Moreland, Schwebel and Kraut (1998); Yusoff, Yap and Ahmad (2012), and Emilee *etal.* (2010). In the qualitative analysis, some spouses still found their wives sexually attractive which is buttressed by the fact that 'beauty is in the eyes of the beholder'. As a matter of fact, some male partners were of the views that in as much as their wives are still alive, they are still sexually attractive to them. This is indicative that there are levels of commitment, andthis was a form of healing therapy to the relationship despite the incidence of the breast cancer.

Sexual attractiveness determines the frequency of sex between the partners in marital relationship (Zhaoyang & Cooper, 2013). However, findings revealed that different factors influenced the frequency of sex among participants which ranged from the mood of the partners, nature of job which placed a demand on the strength of the man, the location of the job and residence of both partners as they might not be staying together,and also religious perspective. It was then revealed that the treatment of the breast cancer affected the frequency of sex due to its linkage with libido. This implied that,the treatment of breast cancer resulted in the loss of urge for sexual activities between partners as revealed by Emilee *et al.* (2010) that low libido is common among those women who were treated of breast cancer.

A healthy man has high a libido as submitted by Van (2012). However, men in this study tried to control theirs due to the health challenge of their wives. This rather suggests that sexual urge could be controlled when some external factors are not favorable. It was also found that the partners reached orgasm when they were properly aroused before sex. This is by implication suggesting that neither the diagnosis nor the treatment was a factor against both reaching orgasm. In the same vein, the men decided to derive satisfaction from the other unaffected breast. They also aroused their wives to orgasm by stimulating the thighs which was different from the parts identified by Cordeau, Bélanger, Beaulieu-Prévost and Courtois (2014) which they claimed to be main sensory sites to include the perineum (vaginal, clitoris), breast (nipple, lateral) and control body locations (forearm, neck, abdomen).

From the findings of this study, the diagnosis and the treatment of breast cancer sharpened the nature of the sexual relationship between the partners which resulted in some men not wanting to sleep with the women. This was borne out of pity or sympathy so as not to hurt the woman. This idea or belief was similar to the report of Yusoff*et al*. (2012) that the spouses do not usually raise sex issues with their wives due to theirill health condition.Some of the WLBC were of the views that their partner could be infected with the disease, as such they do not have sex with their spouses. However, according to the submission of the America Cancer Society (2018), breast cancer was neither an infectious nor a contagious disease. Some women also revealed that they were ashamed of having sex with their husband which was attributed to the psychological aftermath of the diagnosis and the physical changes on their body as a result of the treatments. Thus, they declined the advances for sex. This is related to the findings of Jankowska (2013) that the treatment regimens are great risk factors to sexual functioning of partners. Most often than not, the reasons from the WLBC were that there should be no sex because the woman would be in pain, the woman is feeling she is not attractive, as such a man is expected to stay off from having sex with the affected These and other reasons provided by the WLBC,usually caused friction among the partners,as the men were denied easy access to sex.This eventually affects the spousal relationship,which might have negative result wherein the man marries another wife, or seeks separation/divorce

Findings on the perceived effects of breast cancer diagnosis on the family of the affected couples, showed that child bearing and rearing are affected. But findings from the qualitative study revealed that most of them had passed child bearing stage, and were rearing their children. Consequently, breast cancer diagnosis and treatment did not affect the role that the WLBC played with the children. For those with grown up children, they had little stress with them as they could take care of themselves. For those with younger children, the husbands were playing double roles by acting as a father and asa mother as this act was also highlighted in the work of Neris and Anjos (2014). Furthermore, there was the notion that the breast cancer affects the fertility of women, but this could be overcomed by giving the women fertility preservationsas suggested by Mahajan (2018). Findings revealed that the WLBC who had not yet given birth prior to the treatment had the fear of infertility.Though they were optimistic about their ability to mother a child, which is contrary to the usualconcern and priority for health over fertility as revealed in the study of Hubbeling,Cohn, Villarreal-Garza and Patridge (2018).

Further findings from the study revealed that the relationship that the partners had with their family and friends, still existed after the diagnosis and treatment as they provided financial and other forms of support Hubbeling *et al*. (2018). On the other hand, some partners in the study believed that they needed not to disclose the woman's health status and needed to keep it secret as also opined by Dsouza *etal.* (2017). This is because the qualitative findings revealed that a person's family is his/her enemy, and they do not know where the health-attack emanated from.This reflectedpeoples believe that BC has a spiritual or social cause. However, the spouse needed to inform the woman's family of the nature and extent of the disease. The reason was that in the event that the woman dies, the spouse would not be held responsible.

Relating to the religious orientation as an aspect of the spousal relationship, findings showed that there was an 'Uncreated Being' that must be worshipped by all as also opined by Tate (2011). From the study, the religious orientation of the partners was a function of their inherited family's religion and also by the virtue of marrying to each other. Indeed, both practiced what they believed in,and with the diagnosis of the disease they believed that they required the presence of God's intervention and to be more intimate with him as also postulated by Puchalski(2012), that most patients always advocated for the presence of God in the diagnosis and treatment of breast cancer. It is also believed that at every instance of the treatment, the partners regarded thesovereign intervention of God for healing as earlier observed by Neris and Anjos (2014) and Hatamipour,Rassouli,Yaghmaie, Zendedel and Majd (2015). Nevertheless, most participants were not disappointed in God allowing them to have the disease and passing through all the ordeals,as God has the final prerogative on each life,as also supported by Dsouza,*et.al.* (2017) in their studies.

Information on the dynamics of the spousal relationship based on the different phases of the disease (pre-diagnosis, post diagnosis and post treatment) was elicited from the partners. It was pertinent to note that the partners had an existing relationship before the diagnosis, which was a function of the personalities involved. They enjoyed or resolved to fate, that is, they accepted their lot by the personality attributes displayed by each other in the relationship. Consequently, with the diagnosis of the disease and incidence of the disease, the psychological balance of relationship was disturbed. Findings showed that the way the partners absorbed and handled the disclosure depended on the health of the existing spousal relationship pre-diagnosis.

For the spouses that had cordial or perceived stable existing relationship, they were both able to grow stronger emotional bonds and together sought medical attention. For partners that had previous underlying issues with each other, the diagnosis of the disease brought them together, if not for anything, it was mainly to agree to seek for the medical help for the woman. The spouses viewed this disease as a common problem, with the resolution to seek ultimate care and cure. This therefore, translated into the spousal relationship during the treatment, wherein the spouses were seen to be available during the different treatment regimens. This spousal relationship dynamics also agrees with Dorval *et al*. (2005); Fletcher *et al*. (2010); Keesing, *et al*. (2016); Hubbeling*et al.* (2018).

The WLBC reported that their spouses were faithful to them post treatment and were always available for them. The findings showed that the participants could categorically ascertain the perceived status of their relationship. Some revealed that the illness did not affect the stability of their relationship, rather they enjoyed their spousal relationship and the health condition had strengthened it as also corroborated by Neris and Anjos (2014). However, issues such as the fear of the negative outcome of the disease and its treatment (Barros *et al*.,2018) affected the stability of some relationships. Furthermore, the financial implication of the treatment as also pointed out by Oladimeji*et al*. (2015) which was burdensome actually affected the perceived stability of most of the relationship.

In the study, personal perception about continuity of relationship as a result breast cancer was raised and discussed, and the quantitative survey revealed that majority of the men reported that they would not marry a woman diagnosed or who had been confirmed to have breast cancer. Which is a reflection of the fear they have for the disease, and that it might also lead to death, as it was also corroborated by Barros *et al*. (2018). Almost one-third of the men indicated that they would discontinue a relationship with their fiancé that has a pedigree of breast cancer though she does not presently have it. Their reasons were that breast cancer is hereditary; it can lead to death and cause future separation (sorrow); the relationship would be a risky venture and that prevention is better than cure.Further findings showed that the 65.3% female respondents gave a negative opinion about their son marrying a woman affected with breast cancer, 39.5% were also not favorably disposed to their son marrying a lady with a known history of breast cancer. The reasons attributed were that their son and the unborn children would suffer the burden in the future,that, it was incurable and can lead to death.

These perceptions were further corroborated with responses from the actual experiences of the WLBC.The responses were borne out of the reminiscence on the problems and challenges they had gone through during the diagnosis and treatment periods. Although majority were of the view that their sons would not marry a woman diagnosed, treated or that has a family pedigree of breast cancer.But,they still had after thought that, if there was love between the intending couple, nothing should be a barrier to the relationship.

As part of the opinions, the role of genetic testing and counseling was advocated in the responses from the WLBC and their spouses. From the findings, some of the WLBC had a close or distant relative that had been diagnosed or had been treated for breast cancer. This showed that cancer (breast cancer) could be passed from one generation to another. Interestingly, the rich Yoruba culture gives room for underground family investigation to know the prevalent disease in any proposed family an individual is getting married into. As Odejobi(2013) in his study, also corroborated the finding from this studythatbreast cancer and other diseases can be detected in the family,as this is possible if individuals take up the responsibility of breast cancer genetic counseling and testing. With the foregoing, there is a link between breast cancer and its hereditary potency.

Different coping mechanisms for the WLBC and their spouses were suggested by respondents. These ranged from exhibiting and practicing genuine love, avoiding negative social peers, summon courage,marrying another wife which was not an alternative,wereamong many other suggestions. Additionally, the WLBC could live a positive life by putting their minds off it, seek spiritual solace and succor, the positive presence of the husband, adherence to medical prescription, amongst many other coping mechanisms.The government also had a role to play in providing coping strategy for the WLBC such as providing standard equipment for treatment and subsidized drugs. That, the medical professionals should also upgrade their medical knowledge, treat and talk to the WLBC with empathy, as well as to provide breast cancer vaccines. The community members should not stigmatise either the spouse or the WLBC, and they should not make self- deflating comments. These would go a long way to cushion the way breast cancer affects women.

4.11.1 Findings in connection with the sick role theory and triangular theory of love

The literal interpretation of sick role is the normative transition of a sick person from the normal roles to a sick role as contained in the sick role theory. This is displayed by the woman living with breast cancer, such as her inability to attend to family and spousal roles, inability to go to work, to attend to social outings, seek for medical attention, among many others. Although she tries to live within the armpit of the rights and obligations of the sick role theory, she might not be able to stay exclusive of them. This in turn leads to her living a dual life between the worlds of health and being ill-normalization.

However, based on the focus of this study that, in the event that the woman living with breast cancer continues to exhibit the literal and technical aspect of the sick-role, the role of triangular theory of love in the spousal relationship comes to play.

The triangular theory of love posits that love can be understood as components forming the vertices of a triangle: intimacy, passion and decision/commitment. While intimacy as a component of triangular theory is affective (or emotive) involving feelings of warmth closeness, connection and bondedness in spousal relationship, the component of passion in spousal relationship leads to romance, physical attraction and sexual consummations. Indeed, it is more or less motivational investment (Sternberg, 1986).

The third component, decision/commitment on the other hand, views relationship in the short-term to decision that one loves a person, and in the long term, to one’s commitment to maintain that love (Sternberg, 1986). As Sternberg (1986) noted, decision and commitment may not necessarily go together in relationship because it is possible that one loves someone (the spouse) without being committed to the love in the long term, or one can be committed without acknowledging that one loves the other person in spousal relationship.

Based on the perception of the respondents on spousal relationship, there was an evidence of commitment to spousal relationship in the long-run. Majority of the respondents indicated that they would still continue to maintain their intimate spousal relationship, if the wife developed BC. As a matter of fact, most participants (WLBC) demonstrated the fact that their spousal relationship did not change from the way it was before and after the diagnosis or during the treatment and after the treatment of the health condition. Further demonstration of commitment was revealed with most WLBC in the areas of sharing marital obligations, financial burdens, home chores and child rearing responsibilities with their spouses.

While most WLBC were able to demonstrate the decision/commitment component of triangular theory of love, others demonstrated intimacy and passion which Sternberg (1986) described as more or less a motivational investment. Put differently, the occurrence of BC had in one way or the other, probably for insufficient funds or stress, resulted to less motivational investment. Indeed, the passion component of the triangular theory of love is imbued with romance, physical attraction and sexual consummations seemed to have been affected by the health condition (BC).

However, findings showed that some men that did not maintain the decision/commitment component of the triangular theory of love immediately after the diagnosis of BC wherein couples recorded a decline in social outings, sexual intimacy, communication patterns among others, because their spouses (wives) were no longer physically attractive to them, no longer romantic and less of sexual consummations. This negates Sternberg and Grayek (1984) that intimacy component of triangular theory of love desires to promote the welfare of the loved ones and being able to count on the loved ones in times of need.

This is by implication suggesting that the level of commitment to spousal relationship by the male partners determines how consummated the relationship would be even after the diagnosis of BC. This also means that the higher the magnitude of the male partners' level of commitment to the relationship, regardless of the infection of BC on the wife, the higher the degree of closeness and the maintenance of spousal relationship. On the other hand, the less the magnitude of the male partner's level of commitment to the relationship, when there is infection of BC on the wife, of course, the less the degree of closeness and the maintenance of spousal relationship.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study examined the influence of breast cancer (BC) on spousal relationship at various stages: pre-diagnosis, post-diagnosis and post-treatment. The study elicited the knowledge and perception of individuals about BC which influenced the time of diagnosis, reaction to diagnosis, worries and fear, nature and choice of treatment. The study focused on the on how breast cancer diagnosis and treatment affects the several aspects of spousal relationship. The study documented the perception of bothparticipantsand respondents on the continuity of relationship due to the emergence of BC. The study also examined the coping strategies proposed and adopted by WLBC and their spouses for the management of the health condition.

The study adopted triangular theory of love as analytical framework. This theory posits that there are three components: intimacy, passion and decision/commitment that determine the degree of closeness or bondedness in spousal relationship. This study further adopted cross-sectional survey wherein semi-structured questionnaire were administered to 660 community members to determine their level ofknowledge about BC, and their perception about how BC affects spousal relationship. Similarly,30 in-depth interviews were conducted to document real life experiences of15 WLBC and 15 male partners of WLBC, as well as four case studies at the BC unit of University College Hospital (UCH), Ibadan.

Various variables were used to elicit the knowledge of people about BC. It was established that people were aware of the deadly nature of the disease, but were quite reluctant in taking the necessary precautions such as self-breast examination and breast screening.The people also seemed not to have the detailed information about the signs and symptoms of breast cancer,they also trivialized the appearance of any change observed on the breast. The level of knowledge affected the time of diagnosis and treatment, as the WLBC had late presentation at the clinic which definitely affectedthe success rate of the treatment. It was alsorevealed that the media really helped in sensitizing the populace, whereas the religious groups were not educating enough their adherents. Also, the level of knowledge also affected the ability of the WLBC to be able handle the diagnosis report and the prescribed treatment regimen. The study revealed that the WLBC had no choice on the nature and extent of treatment prescribed, as this could be attributed to the late stage of clinical presentations. The doctors therefore prescribed what was most appropriate for the case at hand.

The various themes as adopted from the ENRICH marital satisfaction scale was used to explicate how breast cancer diagnosis and treatment affects spousal relationship. Findings revealed that the partners could not understand the personality of each other absolutely, but had to live with whoever they had chosen to share their lives with. Findings showed that there were some role-shift in the roles and responsibilities of the WLBC within the family. The spouse played some dual responsibilities such as taking care of the children, performing domestic chores; however, for the grown up children, they were able to cater for themselves. This was also related the concept of sick role to WLBC. The sick role with its attending rights and obligations had been criticized. However, due to the nature of the sickness (chronic) which can only be managed, the WLBC sought to normalize with regular treatment. The sick role implied in this study, therefore referred to the attributes that could be seen and performed by the WLBC, which indicated that she is not perfectly in optimal health. Thus, for some other external roles, the partners had some significant others to assist them.

In addition, it was indicated that the partners had diverse issues to communicate, but the diagnosis of the disease became the most discussed theme in the relationship. This was borne out of the fact they needed to communicate with each other with a view of proffering solution to the ill-health problem. Furthermore, due to divergence in views and opinions to life, which causes conflict in any given relationship, the partners found ways of resolving issues between themselves without involving third parties. However, the re-occurring issue that usually caused conflict between the partners was the finance involved in the treatment of the disease. As most participants were not buoyant enough, thus, finance was the major theme that caused conflict between the partners.

WLBC and their spouses sought for several ways to alleviate the financial burden, such as obtaining loans, pension and gratuity, national health insurance scheme and joint account. Furthermore, the finding revealed that there was the involvement of family and social network in alleviating the financial burden. This further buttressed the fact that every individual belongs to a social group and enjoys the advantage of such affiliations.

In the same vein, the leisure activities enjoyed together by the spouses were affected by the diagnosis and treatment of breast cancer. As there were differences in the types of food to be taken by the wife based on special diet prescription, also they could not attend social functions together as before, neither could they visit interesting places again together.

Findings demonstrated the roles that breast cancer played in shaping the nature of sexual activity among the spouses. By the reason of the fact that the spouse(man) played with the breast (being an erotic organ) during sex, this made it possible for the men to discover any lump in the breast of their wives. The spouse also derived satisfaction from the unaffected breast and from stimulating the thigh, this showed that beauty is in the eye of the beholder and sexual satisfaction is a function of the mind and love for the face (person) the act is engaged with. As Yoruba usually say that '*oju la'n do, obo were o yato(what a man enjoys in sexual intercourse with a woman is her countenance: the virgina of a mad woman is not different)*.

On another note, some women did not want to engage in sex because of the fear that their spouses could get infected, which is not real. Also, out of pity some spouses desisted from having sex with the woman.This fear and pity resulted in abstaining from sex,which negatively affected the spousal relationship.This might eventually lead to crisis and if not well managed,might lead to separation or divorce.This is borne out of the fact that healthy sex life is part of an ideal spousal relationship.

Findings further revealed that for spouses who had not yet given birth, they were optimistic that the effect of treatment would not affect their ability to bear children. Furthermore, the diagnosis and treatment of the disease did not have any major adverse consequence on child rearing because the WLBC still tried their best in taking care of their children. Similarly, family and friends had positive contribution to the partner’s relationship. However, this depended on the level of intimacy between the spouses, and the family and friends even before the diagnosis of the disease. Nevertheless, the families of the WLBC were informed about the health challenge, so that they would be informed about subsequent health development of the WLBC, and in case of any eventuality(death).

It was also revealed that religion is a therapeutic relief from the shock of the diagnosis, and succor during the different treatment regimens. The disease registered the presence of God in the lives of the participants, and the need for His intervention.

Enunciating the dynamics of the spousal relationship and the different phases of the disease, it was revealed that the existing relationship pre-diagnosis exhibited love, bond, hope of longevity, continuity of life. The personality and disposition of the individuals affected the health of the relationship pre-diagnosis, that is, being able to relate well between themselves before the diagnosis.

The diagnosis report caused some psychological imbalance in the WLBC and her spouse. The level and extent of intimacy was challenged by the diagnosis, however the determination and commitment involved sustained the relationship at post diagnosis stage. The sustained spousal relationship was translated to the treatment and post treatment phase.

It is pertinent to note in this study, that the report of the diagnosis caused perceived instability in the relationship at the post-diagnosis stage.The financial stress of the treatment and fear of the unknown(death) of the woman caused perceived instability in the spousal relationship at the post-treatment stage.

Further analysis of the perception of the respondents on the continuity of a relationship at the emergence of BC revealed that most unmarried men would not want to marry a woman diagnosed or treated of breast cancer. They would not want to marry a lady with a known pedigree of breast cancer due to the fear of the future. The WLBC and their spouses revealed that if the issue of love is eliminated, they would not agree to their sons marrying or continuing a relationship with a lady with the aforementioned conditions. The WLBC were particularly reluctant, due to the stress they had gone through which they do not want their son and daughter-in-law to face in the nearest future. Nevertheless, they all agreed to give their female child the necessary medical attention, if such situation arises.

The findings highlighted the various proposed and adopted coping mechanism for women living with breast cancer and their spouses.In the same vein, some stakeholders such as the government, medical professionals were also seen as providing reasonable coping mechanism for the partners.

5.2 Conclusion

This study focused on the role of breast cancer on spousal relationship. Based on the findings of this study, it would be more convenient to state that both the diagnosis and treatment of breast affected the existing spousal relationship in varying degrees. The level of awareness and knowledge about the severity of the disease, caused the late presentation of the WLBC at the clinic for treatment. This in turn affected the success rate of the eventual treatment on the WLBC. It was observed that the personality and disposition of WLBC and their spouses affected their ability to face the challenge of the disease. Furthermore, the level of love and commitment as demonstrated in the analytical framework assisted the partners to face the factors that cause perceived un-satisfaction and instability in the relationship. By implication, each partner in a relationship should be able to prove their worth and commitment no matter the challenge.

All these point to the need for marriageand genetic counselling for prospective couples, which is similar to the Yoruba culture of investigating any prevailing family disease, before getting married into any family. As a matter of fact, social supports, access to financial and religious supports through prayers would foster proper diagnosis and the extent of treatment procedure undertaken by the WLBC. This means that people needed to be properly aware of the slightest sign and symptom of BC which should also be propagated at the religious groups apart from the mass media. It should be properly spelt out in science schools curricula at all strata of education.

Finally, WLBC and their spouses had expectations from the government, medical professionals and most especially from the community in which they reside for them to live an optimal life.

5.3 Recommendations

The primary goal and expectation of the WLBC is to get proper diagnostic and treatment procedure in order to live and to have a healthy spousal relationship with her spouse.

The following are recommendations emanating from the findings of this study:

(1) There should be intensive and thorough sensitisation of the women folk to know the severity of the disease. The sensitization should include the most trivial signs and symptoms that they need to observe on the breast. Whether the lump is benign or cancerous, the women should seek medical help and follow it to a logical end. This is without prejudice or being apprehensive.

(2) Coordinators of traditional health centresshould be educated to know the signs and symptoms of breast cancer, and should quickly refer any such woman with these signs and symptoms to the hospital. As most of the women that initially patronised traditional health centres in the first instance before coming to the hospital and did not record improvement in their health condition.

(3) Based on the comments of the participants, the health professionals (oncologist) should be more empathetic with the patients.

(4) The government should provide subsidised drugs and treatment for the WLBC.As it was observed in the clinic used for this study that some women did not come back for their treatments because of the financial implication.

(5) The Government should also encourage and finance research to find cure, and the development of vaccine for breast cancer.

(6) Support groups should be established wherein WLBC and their spouses could meet with people of similar need and attention. This support group would provide forum for them to share their experiences (pains and joy).

(7) Community members should also be sensitised not to stigmatise people that are affected with breast cancer, as anybody or everybody could be a victim.

(8) More social groups for girls should be formed to educate them on the need for self-breast education, how to avoid some risk factors early in life, also to report changes in their breast, whether the change is benign or cancerous.

(9) Women should be encouraged to go for breast cancer genetic testing and counseling

(10) Financial bodies should be encouraged to provide accessible and low interest loan facilities for WLBC to undertake treatment. This could also be a corporate social responsibility of corporate bodies to cater for WLBC, because they should be catered for. This loan should be low interest and be made accessible to the WLBC on the presentation of the necessary documents from the hospital.

(11) More importantly, as this study is focused on women living with breast cancer and their spouses,it is further encouraged that they should be able to count on themselves in their time of need.They should also share mutual understanding.

5.4 Contributions to Knowledge

The study has made some significant contribution to the body of knowledge. These include the following:

1. The study has added enormously to the growing knowledge of literature on Breast Cancer.
2. This study has succeeded in expanding the frontiers of discussion on role played by the diagnosis and treatment of BC on the dynamics of spousal relationship.
3. The study has been able to expand the frontiers of application of triangular theory of love in the application of discussing health outcome on spousal relationship.
4. It has provided a framework for policy maker in formulating effective policies on the management of breast cancer, prevention of stigmatisation and discriminatory practice
5. The study has widened the discussion of BC in women as it relates to late presentation and resulting outcome of death.
6. The study has also provided a guide to care-givers and family counselors, on the challenges faced by WLBC and spouses at every stage of the disease.
7. The study has contributed to time-line intervention for WLBC and spouses facing the health challenge.
8. The study has also established the need for individuals to engage in breast cancer genetic counseling and testing.
9. Academically, the study contributed to literary discussion on the government and medical professional roles in the actualization of a quality of life for WLBC and their spouses.
10. Academically, the study widened the multidisciplinary approach to research on health, and this brought about the integration of sociology and medicine to advance the health promotions for WLBC and their spouses.

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APPENDIX I

INFORMED CONSENT FORM FOR QUALITATIVE STUDY Ref:UI/EC/17/0120

BREAST CANCER AND SPOUSAL RELATIONSHIP IN THE IBADAN METROPOLIS, OYO STATE, NIGERIA

Consent form for Respondents (Spouses)

Name of Researcher: Morounfoluwa O. Oyebola Name of Institution: University of Ibadan

Greetings: My name is **Morounfoluwa O. Oyebola** and I am a postgraduate student of the Department of Sociology, Faculty of the Social Sciences, University of Ibadan. I am carrying out a research study on Breast Cancer And Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.

1. **Purpose of the research:** The purpose of this study is to investigate the howBreast Cancer affects Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.

2. **Procedures**: You are kindly encouraged to take part in this research project and participate in the interview. If you accept, you will be asked to participate in responding to some questions which will be posed to you. Please note that, though it is important for the research that you answer all questions, but if you do not wish to answer any of the questions posed to you, you may ask to move on to the next question. No other person but the researcher alone will be present for this interview. The interview session will be audio-taped and notes would be taken concurrently. The information recorded is considered confidential, and no one else except the researcher and the supervisor will have access to the information.The Interview will last for approximately 40 minutes.

3. **Risks and Discomforts:** There is the possibility that you may feel uncomfortable talking about some of the issues. However, I do not wish this to happen, you may refuse to answer any question or not take part in a portion of the interview if you feel the question(s) make(s) you uncomfortable.

4. **Benefits:** There will be no direct benefits to you but the information obtained from the study will help to provide suggestions that will enable the researcher develop appropriate programmes and interventions time-line for spouses facing challenges as a result of breast cancer. It will also help family counsellors to give informed advices

5. **Confidentiality:** The following steps have been taken to ensure that you are safe and that the information you provide is confidential.

- The interview session will be conducted in a private place
- The audio-taped information would be transcribed, coded and it will be saved.
- The information that I collect from this research project will be kept in confidential file that will be under lock and key.
- This file will not have your name on it, rather, a number shall be assigned to it.This cannot be linked to you in anyway and your name or any identifier will not be used in any publication or reports from this study

6. **Voluntariness:** Please note that participation in this research is entirely voluntary

7. **Alternative to participation:**

You do not have to take part in this research if you do not wish to. Even if you do not wish to answer these questions you may still benefit from the study. You may stop participating in the answering the questions at any time that you wish, and there will be no negative consequences for you in any way.

8. Statement of person obtaining informed consent:

I have fully explained this research to …………………………………….and have given sufficient information, including risk and benefits, to make an informed decision.

Name: ………………………………………………………………………...

Signature: ……………………………... Date……………………………………….

9. Statement of person giving consent:

I have been invited to take part in the research on **Breast Cancer and Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.** I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which had been answered to my satisfaction. I give my consent voluntarily to be a participant in this study, and understand that I have the right to withdraw from the interview at any time without being afraid of any consequences.

Name of Participant ……………………………………………………………………...

Date: ……………………………... Signature/Thumbprint……………………………………...

Witness Name:……………………………Witness Signature……………………………

Date ………………………...

10. Detailed contact information including contact address, telephone, e-mail and any other contact information of researcher, institutional HREC and head of the institution:

This research has been approved by UI/UCH Ethical Review Board , University of Ibadan and the Chairman of this Committee can be contacted at Biode Building, Room 210, 2nd Floor, Institute for Advanced Medical Research and Training, College of Medicine,University of Ibadan, E-mail:**uiuchrc@yahoo.com** and **uiuchec@gmail.com**

In addition, should you have any question about your participation in this research, you can contact the principal investigator, **Name**: Morounfoluwa O. Oyebola. **Department:** Sociology

Phone: 08052106160

Email:oyebola_folusegs@yahoo.com

APPENDIX II
INFORMED CONSENT FORM FOR QUANTITATIVE STUDY Ref:UI/EC/17/0120

BREAST CANCER AND SPOUSAL RELATIONSHIP IN THE IBADAN METROPOLIS, OYO STATE, NIGERIA

Consent form for Respondents(Community Members)

Name of Researcher: Morounfoluwa O. Oyebola **Name of Institution:** University of Ibadan

Greetings: My name is **Morounfoluwa O. Oyebola** and I am a postgraduate student of the Department of Sociology, Faculty of the Social Sciences, University of Ibadan. I am carrying out a research study on Breast Cancer And Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.

1. **Purpose of the research:** The purpose of this study is to investigatehowBreast Cancer affects Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.

2. **Procedures**: You are encouraged to take part in this research project and participate in completing the questionnaire. If you accept, you will be asked to participate in the filling of the questionnaire which will be given to you. If you do not wish to answer any of the questions posed in the questionnaire, you may say so and can move on to the next question. No one else but the researcher alone will be present. The information recorded is considered confidential, and no one else except the researcher and her Supervisor will have access to the information documented during the research.

Your answers to these questions will be recorded on this questionnaire. This will be done so that I can remember everything that you have told me. Although it is important for the research that you answer all questions, but if you do not wish to answer any of the questions included in the survey, you may ask to move on to the next question. Filling the questionnaire will last for approximately 40 minutes.

3. **Risks and Discomforts:** There is the possibility that you may feel uncomfortable talking about some of the topics. However, I do not wish this to happen, and you may refuse to answer any question or not fill a part of the questionnaire if you feel the question(s) make(s) you feel uncomfortable.

4. **Benefits:** There will be no direct benefits to you but the information obtained from this study will help to provide suggestions that will enable the researcher develop appropriate programmes and interventions time-line for spouses facing challenges as a result of breast cancer. It will also help family counsellors to give informed advices

5. **Confidentiality:** The following steps have been taken to ensure that you are safe and that the information you provide is confidential.

- Filling of questionnaire will take place in a private place
- The information that we collect from this research project will be kept in confidential file that will be under lock and key.
- This file will not have your name on it, rather, a number assigned to it. This cannot be linked to you in anyway and your name or any identifier will not be used in any publication or reports from this study
- The questionnaire containing the interview will be stored for duration of 5 years after which it will be destroyed.

6. **Voluntariness:** Please note that participation in this research is entirely voluntary

7. **Alternative to participation:**

You do not have to take part in this research if you do not wish to. Even if you do not wish to answer these questions you may still benefit from the study. You may stop participating in the answering the questions at any time that you wish, and there will be no negative consequences for you in any way.

8. Statement of person obtaining informed consent:
I have fully explained this research to …………………………………….and have given sufficient information, including risk and benefits, to make an informed decision.

Name: ………………………………………………………………………………...

Signature: ……………………………... Date………………………………………...

9. Statement of person giving consent:
I have been invited to take part in the research on **Breast Cancer and Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.** I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions, which had been answered to my satisfaction. I consent voluntarily to be a participant in this study and understand that I have the right to withdraw from filling the questionnaire at any time without being afraid of any consequences.
Name of Participant ………………………………………………………………………...

Date: ……………………………... Signature/Thumbprint………………………………………...

Witness Name…………………………Witness Signature……………………………

Date ………………………...

10. Detailed contact information including contact address, telephone, e-mail and any other contact information of researcher, institutional HREC and head of the institution:

This research has been approved by UI/UCH Ethical Review Board, University of Ibadan and the Chairman of this Committee can be contacted at Biode Building, Room 210, 2nd Floor, Institute for Advanced Medical Research and Training, College of Medicine,University of Ibadan, E-mail:**uiuchrc@yahoo.com** and **uiuchec@gmail.com**
In addition, should you have any question about your participation in this research, you can contact the principal investigator, **Name**: Morounfoluwa O. Oyebola. **Department:**Sociology.**Phone**: 08052106160
Email:oyebola_folusegs@yahoo.com

APPENDIX III

(Yoruba translation ofConsent form for Respondents (Spouses)

Ref:UI/EC/17/0120

IWE GBIGBA ATI IFOWOSI LATI KO PA NINU IFOROWANI LENUWO 20

AARUN JEJERE OMU ATI AJUMOWAPO LOKO-LAYA NI ILU IBADAN, IPINLE OYO, NAIJIRIA

Iwe Gbigba Ati Ifowosi Fun Awon Oludahun (Loko-Laya)

Oruko Oluwaadi: Morounfoluwa O. Oyebola **Oruko Ile-Iwe:** Unifasity Ilu Ibadan.

Ikinni: Oruko mi ni **Morounfoluwa O. Oyebola**.Mo je akeko ni ipele giga ni eko imo ijinle nipa ibasepo eda, ipele imoara sesi lati ile iwe giga ni Unifasity ilu Ibadan. Mo n se ise iwadi lori **ipa ti Arun jejere omu nkolori Ajumowapo Loko-Laya ni ilu Ibadan, Ipinle Oyo, Naijiria.**

1. **Idi ti mo fi n se iwaadi eko yi**: Idi ti mo fin se iwaadi yi ni lati mo ipa ti aarun jejere omu nko lori ajumowapo loko-laya ni ilu Ibadan, Ipinle Oyo, Naijiria.
2. **Igbese:** Mo ro yin lati kopa ninu iwadi eko yii ati lati ko ipa ninu iforowani lenu wo yi. Nje ti e ba gba, ma a fe ki e dahun si awon ibere ti N o ma bi yin. Mo fe ki e kiyesi wipe, o se Pataki fun iwaadi yii, wipe e dahun gbogbo awon ibeere, sugbon ti e ko ba le dahun ibere kan ti a bii yin, e le dahun ibeere eyi ti o kan ninu awon ibeere naa. Mo fe ki e mo wipe, Oluwaadi nikan ni yoo wa pelu yin nigba ti a ba nse iforowanilenu wo yii, N o gba ohun yii sile, bakan naa ni N o ma ko awon koko oro sile. Awon idahun ti a gba sile yii je oro asiri gidi gan, eyi ti o je wipe oluwaadi ati oga re nikan lo le ni aaye tabi anfani si awon idahun naa. Mo fe ki e mo wipe iforowanilenu wo yii ko ni koja ogoji iseju.
3. **Ijamba ati ipalara:** O seese wipe o le ma te yin lorun lati soro lori awon koko oro kan. Bo ti le je wipe, N ko ni fe ki eyi ki o waye, sugbon e le ko lati daahun awon ibeere kan- kan tabi ki e ko lati kopa ninu iforowanilenu wo yii ti o ba je wipe e ko fara mo awon ibeere naa.
4. **Aafani** : iwaadi yii le ma ni anfani kan to se e toka si bayi, sugbon awon abajade ati awon aba ti oluwaadi ba koja ninu iwaadi naa le wulo fun awon eto ati agbekale fun loko-laya ti o ni idojuko yii. Awon abajade iwaadi naa yoo wulo fun awon oludamoran- idile lati fun awon loko-laya ni imoran ti o ni oye.
5. **Asiri bibo**: Awon igbese won yi ti wa nile lati ri wipe e wa ni alaafia ati wipe awon idahun yin ko han si gbogbo eniyan.
   - A o se ifowowanilenuwo yii ninu yara kan ti ko si eniyan miran nibe.
   - Ohun yi ti a ba gba sile, a o ko jade,a o si toju iwe ti a fi ko yii.
   - Idahun ti mo ba gba lati inu iwaadi eko yii, ma a fi si inu apo iwe nla ti a ya soto, yo si wa ninu ipamo ti a fi kokoro ti.
   - Iwe apo nla yii, ko ni ni oruko yin rara, sugbon ma a kan fi numba idamo si. Numba naa, ko le toka si yin rara bi o ti wu ki o mo, beni ko si nkan ti yoo fi toka si yin ninu akojade iwaadi yii.
6. **Atinuwa-Afitokan se**: Ki ko pa ninu iwaadi eko kii se oro-yan, sugbon ati inuwa -afokan se ni.
7. **Ona miran si kiko pa ninu iforowanilenuwo**. Ki i se dandan ki e kopa ninu iwaadi eko yi. Bi e ko ti le dahun si awon ibere, e si le je aafani ninu akojade iwaadi yi. E le si' wo lati maa dahun si awon ibeere won yi nigba kuu gba ti e ba fe, ti ki yio si si wahala kankan ti yio ti eyin re jade.
8. **Akosile eniti o gba iwe yii :**
   Mo ti se alaye ni kikun nipa iwaadi eko yii fun.. ati gbogbo igbe'se, ijamba tabi ipalara ti o le je yo, kii won ki o le roo daradara ati lati pinu lati ko pa ninu iwaadi eko yi.

   Oruko : ....

   Ojo: ....
   Ifowosi Iwe : ....
9. **Akosile eniti o pinu lati ko'pa ninu iwaadi eko yii**
   A ti pe emi lati kopa ninu iwaadi eko yi lori **Aarun Jejere Omu ati Ajumowapo loko-laya ni ilu Ibadan, Ipinle Oyo, Naijiria**. Mo ti ka gbogbo awon oro akoso wonyi, tabi won ti ka si mi leti. Mo ti

ni anfani lati beere awon ibeere, mo si ti gba idahun ti o te mi lorun. Mo fi tinutinu fowo si lati kopa ninu iwaadi eko yi, mo mo wipe mo ni ase lati fa sehin ninu iforowanilenu wo yii nigbakugba laisi iberu fun ijiya tabi ohun ti ko dara.

Oruko Olukopa:...

Ojo:...Ifowosi Iwe:..

Oruko Eleri :... Ifowosi iwe Eleri...

10. Awon itoka sii Pataki nipa ile-ise ti o n se kokari iwe ase gbigba loori iwadi :

Ise iwaadi yi ti gba ifowosi igbimo ti n boju Eto nipa ise iwaadi ni Yunifasiti ti ilu Ibadan, ati wipe e le kan si Olori igbimo naa ni Ile Biode, Yara 210, Aja keji, Institute for Advanced Medical Rsearch and Training, Yunifasity ti Ibadan: Email: **uiuchrc@yahoo.com** and **uiuchec@gmail.com**.

Ni afikun, ti e ba ni ibeere nipa kikopa ninu iwaadi eko yii, e le kan si Oluwadi eko yi,

Oruko: Morounfoluwa O. Oyebola **Department:** Sociology
Ero alagbeka :08052106160 **Email:** oyebola_folusegs@yahoo.com.

APPENDIX IV

(Yoruba translation of Consent form for Respondents(Community Members)
Ref:UI/EC/17/0120

IWE GBIGBA ATI IFOWOSI LATI KOPA NINU IDAHUN INU IWE

AARUN JEJERE OMU ATI AJUMOWAPO LOKO-LAYA NI ILU IBADAN, IPINLE OYO, NAIJIRIA

Iwe Gbigba Ati Ifowosi Fun Awon Oludahun (Awon Ara Ilu)

Oruko Oluwaadi: Morounfoluwa O. Oyebola Oruko Ile-Iwe: Unifasity Ilu Ibadan.

Ikinni: Oruko mi ni **Morounfoluwa O. Oyebola**.Mo je akeko ni ipele giga ni eko imo ijinle nipa ibasepo eda, ipele imo ara siesi la tile iwe giga ti Unifasity ilu Ibadan. Mo se ise iwadi lori **ipa ti Arun jejere omu nkolori Ajumowapo Loko-Laya ni ilu Ibadan, Ipinle Oyo, Naijiria.**

1. **Idi ti a fin se iwaadi eko yi**: Idi ti mo fin se iwaadi yi ni lati mo ipa ti aarun jejere omu nko lori ajumowapo loko-laya ni ilu Ibadan, Ipinle Oyo, Naijiria.
2. **Igbese:** Mo ro yin lati ko pa ninu iwadi eko yii, ati lati ko pa ninu idahun si ibeere inu iwe yi. Nje ti e ba gba, ma a fe ki e fi dahun si awon ibere ti o wa ninu iwe yi. Mo fe ki e kiyesi wipe, o se Pataki fun iwaadi eko yii, wipe e dahun gbogbo awon ibeere, sugbon ti e ko ba le dahun ibere kan, e le koja si ibeere miran ti o kan ki e si dahun re. Awon idahun ti a ko sile yii je oro asiri gidi gan, eyi ti o je wipe oluwaadi ati oga re nikan lo le ni aaye tabi anfani si awon idahun naa.

   A o ko awon idahun yin sile si ori iwe ibeere yii, ki n baa le ranti awon nkan ti a jo so papo. O se Pataki fun iwaadi eko yii, wipe e dahun gbogbo awon ibeere inu iwe yi, sugbon ti e ko ba le dahun ibere kan, e le koja si ibeere miran ti o kan ki e si dahun re. Mo fe ki e mo wipe didahun si ibeere inu iwe yii ko ni koja ogoji iseju.
3. **Ijamba ati ipalara:** O seese wipe o le ma te yin lorun lati soro lori awon koko oro kan. Bo ti le je wipe, N ko ni fe ki eyi ki o waye, sugbon e le ko lati daahunawon ibeere kan- kan tabi ki e ko lati ko pa ninu didahun awon ibeere miran ti o ba je wipe e ko fara mo awon ibeere naa.
4. **Aafani**: iwaadi yii le ma ni anfani kan to se e toka si bayi, sugbonawon abajade ati awon aba ti oluwaadi ba koja ninu iwaadi naa le wulo fun awon eto ati agbekale fun loko-laya ti o ni idojuko yii. Awon abajade iwaadi naa yoo wulo fun awon oludamoran- idile lati fun awon loko-laya ni imoran ti o ni oye.
5. **Asiri bibo**: Awon igbese won yi ti wa nile lati ri wipe e wa ni alaafia ati wipe awon idahun yin ko han si gbogbo eniyan.
   - N o gba idahun si ibeere inu iwe yii ninu yara kan ti ko si eniyan miran nibe.
   - Idahun ti mo ba gba lati inu iwaadi eko yii, ma a fi si inu apo iwe nla ti a ya soto, yo si wa ninu ipamo ti a fi kokoro ti.
   - Iwe apo nla yii, ko ni ni oruko yin rara, sugbon makan fi numba idamo si. Numba naa, ko le toka si yin rara bi o ti wu ki o mo, beni ko si nkan ti yoo fi toka si yin ninu akojade iwaadi yii
   - N o toju awon idahun ibeere inu iwe yi fun odun maarun, leyin eyi n o sun ni ina.
6. **Atinuwa-Afitokan se**: Kikopa ninu iwaadi eko kii se oro-yan, sugbon ati inuwa -afokan se ni.
7. **Ona miran si kiko pa ninu iforowanilenuwo**. Ki i se dandan ki e kopa ninu iwaadi eko yi. Bi e ko ti le dahun si awon ibere, e si le je aafani ninu akojade iwaadi yi. E le si'wo lati ma a dahun si awon ibeere won yi nigba kuu gba ti e ba fe, ti ki yio si si wahala kankan ti yio ti eyin re jade.
8. **Akosile eniti o gba iwe yii :**

   Mo ti se alaye ni kikun nipa iwaadi eko yii fun.. ati gbogbo igbe'se, ijamba tabi ipalara ti o le je yo, kii won ki o le roo daradara ati lati pinu lati ko pa ninu iwaadi eko yi.

   Oruko:..

   Ojo:...
   Ifowosi Iwe:..

9. **Akosile eniti o pinu lati ko'pa ninu iwaadi eko yii**
A ti pe emi lati kopa ninu iwaadi eko yi lori **Aarun Jejere Omu ati Ajumowapo loko-laya ni ilu Ibadan, Ipinle Oyo, Naijiria**. Mo ti ka gbogbo awon oro akoso wonyi, tabi won ti ka si mi leti. Mo ti ni anfani lati beere awon ibeere, mo si ti gba idahun ti o te mi lorun. Mo fi tinutinu fowo si lati ko pa ninu iwaadi eko yi, mo mo wipe mo ni ase lati fa sehin ninu idahun inu iwe yii nigbakugba laisi iberu fun ijiya tabi ohun ti ko dara.

Oruko Olukopa:..

Ojo:...Ifowosi Iwe:..

Oruko Eleri :... Ifowosi iwe Eleri...

10. **Awon itoka sii Pataki nipa ile-ise ti o n se kokari iwe ase gbigba loori iwadi :**
Ise iwaadi yi ti gba ifowosi igbimo ti n boju Eto nipa ise iwaadi ni Yunifasiti ti ilu Ibadan, ati wipe e le kan si Olori igbimo naa ni Ile Biode, Yara 210, Aja keji, Institute for Advanced Medical Rsearch and Training, Yunifasity ti Ibadan: Email: **uiuchrc@yahoo.com** and **uiuchec@gmail.com**.
Ni afikun, ti e ba ni ibeere nipa kikopa ninu iwaadi eko yii, e le kan si Oluwadi eko yi,
Oruko: Morounfoluwa O. Oyebola **Department:** Sociology
Ero alagbeka :08052106160 **Email:** oyebola_folusego@yahoo.com.

APPENDIX V

IN-DEPTH INTERVIEW GUIDE FOR THE WOMEN LIVING WITH BREAST CANCER

Ref:UI/EC/17/0120

My name is Morounfoluwa O. Oyebola from the Department of Sociology, University of Ibadan. The aim of this discussion is to investigate and document the role of Breast cancer on Spousal Relationship inthe Ibadan Metropolis, Oyo State, Nigeria.

Confidentiality and Informed Consent: Please note that all information generated from this discussion is purely for academic purposes, and it would be treated with utmost confidentiality. Therefore, do I have your permission to continue as I will have to record the interview? Yes ( ) No ( )

Date of Interview………………………. Place of Interview……………………

Time interview started………………… Time Interview ended…………………..

No	Question	Category
I	What is your age	Actual
II	What is your religious affiliation	
III	What is your state of origin	
IV	What is your profession at present	
V	What is your highest level of education	
VI	Length of marriage/relationship(in years)	
VII	Type of breast cancer(if known)	

1. What do you know about breast cancer before the diagnosis?
   How did you know you had breast cancer**probe**: time, location, by whom.
2 What was your first reaction to the diagnosis?
   What was your spouses' reaction to the diagnosis?
3 What was the involvement of your spouse in the diagnosis? What support did you receive from your spouse following this diagnosis?
4 What was the involvement of your spouse in the treatment?
   probe: *protective buffering:* hiding his worries and fears, avoid talking about the disease
   active engagement: discussing feelings and engaging in joint problem solving.
   What also informed the choice of the treatment you had: Probe type, choice,extent
5. How was your relationship with your spouse? (a)before BC Screening(diagnosis) (b)after diagnosis and confirming you have BC (c)prior to starting treatment (d)during treatment (e)after treatment

6. **Respondents would be asked the following themes in respect of the specific phase of the health challenge in relation to their spousal relationship)**

   A. **Personality issues:** i. Do you and your partner understand yourselves perfectly
   ii. How pleased are you with the personality characteristics and personal habits of your spouse when you were confronted with the BC and after?
   B. **Roles and responsibilities:** i. How do you handle roles and responsibilities in the relationship?
   ii. What are some of the things you stopped doing when you started dealing with BC?
   iii. Can you tell me some of the things that your spouse(husband)started doing because you cannot do them as a result of the BC iv. Ability to adjust
   C. **Communication:** i. What is your general communication and conversation pattern with your spouse before the ailment (ii) How has health challenges affected your communication in the relationship?
   iii.Affective communication such as saying romantic words like: 'You mean the whole world to me', 'Mother of My Children'etc
   iv Problem solving communication: being able to discuss on personal and family problems together with a view of both proferring solutions to them?

D. **Conflict Resolution:** What were the conflicts that evolved because of the Breast Cancer or as part of the Breast Cancer experiences ii. How did you resolve them?

E. **Financial Management:** The general role of money/finance in the relationship

ii.How were you able to pursue diagnosis, treatment etc.

iii.What is the situation in the Breast Cancer journey and what did your spouse do in respect of money?

F. **Leisure activities:** Activities such as Eating together, sleeping together bathing together, going out together, doing things in common generally.

i. What has changed in respect of your leisure activities?

ii. What was it like before your diagnosis, and how did it evolve thereafter?

G. **Sexual relationship**:Can you describe your sexual relationship?

(i) Sexual attractiveness (ii)Who initiates the sex (iii)Frequency (iv)Libido (v)Orgasm

(iv)How has the health challenge shaped the nature of sexual relationship that you have with your spouse?

H. **Children bearing and rearing:** How do you and have you handled your responsibilities as parents as a result of the health challenge?

I. **Family and Friends:** i. What is the relationship with your parents, in-laws and/or friends? ii. What is their contribution to the relationship as result of the health challenge?

J. **Religious Orientation:** Describe how you and your spouse practice your religious beliefs and values as a result of the health challenge?

7. **(Sick roles:a period in which the woman begins to relinquish some or all normal roles)**
   Which of these sick role has been peculiar to you as a result of this ailment?**Lying on the bed for long, Does not go to work,Discuss your ailment wih people around, Seek medical help, Do not attend to husbands needs,Do not attend to family needs,Do not attend to social events,Does not take care of the children**
8. What is your perceived assessment of the relationship between you and spouse after the treatment(**post-treatment**)?Are there regrets in your relationship with your spouse?
   Probe for: i.Instability in spousal relationship ii. Stability in spousal relationship iii. Satisfaction in spousal relationship iv. Dissatisfaction in spousal relationship (v)love
9. i. What has been your coping strategywith the challenges of breast cancer in general?
   ii. What has been your coping strategy with the post-treatment challenges of breast cancer in your spousal relationship?
10. . Can you state the influence/ role that people around you (such inlaws, friends,religious group members) are having on your spousal relationship?
11. How do you think that spouses can cope with life after breast cancer treatment?
12. What role can the government /medical professionals'/community members play for spouses to cope with life breast cancer treatment?
    Personal questions*:Can you let your son marry a woman that has breast cancer?*
    Will you let him marry a girl with a known family history of breast cancer, though, the girl does not have it presently?
    If yes, why? ____
    *If No, why?*____

If your son’s fiancé suddenly develops breast cancer, what would you advice him to do with the relationship?(i)Continue(iii)Discontinue (iii)I don’t know

Thank you for your time and response

APPENDIX VI

IN-DEPTH INTERVIEW GUIDE FOR SPOUSES OF THE WOMEN LIVING WITH BREAST CANCER **Ref:UI/EC/17/0120**

My name is Morounfoluwa O. Oyebola from the Department of Sociology, University of Ibadan. The aim of this discussion is to investigate the role of Breast Cancer and Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.

Confidentiality and Informed Consent: Please note that all information generated from this discussion is purely for academic purposes, and will be treated with utmost confidentiality. Do I have your permission to continue as I will have to record the interview? Yes ( ) No ( )

Date of Interview………………………. Place of Interview……………………
Time interview started………………… Time Interview ended…………………..

No	Question	Category
I	What is your age	Actual
II	What is your religious affiliation	
III	What is your state of origin	
IV	What is your profession at present	
V	What is your highest level of education	
VI	Length of marriage/relationship(in years)	
VII	Type of breast cancer(if known)	

1. What do you know about breast cancer before the diagnosis of your wife?
   How did your spouse (wife) knew she had breast cancer? **probe**: time, location, by whom.
2. What was theyour reaction to the diagnosis? What was the reaction of your spouse reaction to the diagnosis
3. What was your involvement in the diagnosis? What support did you give following the diagnosis?
4. What was your involvement in the treatment?
   probe: *protective buffering:* hiding your worries and fears, avoid talking about the disease
   active engagement: discussing feelings and engaging in joint problem solving.
   What also informed the choice of the treatment she had. **Probe**: type, choice, extent?
5. How was your relationship with your spouse? (a)before BC Screening(diagnosis)
   (b) after diagnosis and confirming she had BC (c)prior to starting treatment (d)during treatment (e)after treatment

6. **(Respondents would be asked the following themes in respect of the specific phase of the health challenge in relation to their spousal relationship)**

A. **Personality issues:** i. Do you and your partner understand yourselves perfectly? (ii). How pleased are you with the personality characteristics and personal habits of your spouse when you were confronted with the BC and after?

B. **Equalitarian roles:** i. How do you handle roles and responsibilities in the relationship?

ii. What are some of the things she stopped doing when she started dealing with BC?

iii. Can you tell me some of the things that you (husband) started doing because she cannot do them as a result of the BC? iv. Ability to adjust

C. **Communication**:i. What is your general communication and conversation pattern with your spouse?ii. How have health challenges affected your communication in the relationship?

iii.Affective communication such as saying romantic words like: ‘You mean whole world to me’, ‘Mother of My Children’ iv Problem solving communication: being able to discuss on personal and family problems together with a view of both proffering solutions to them.

D. **Conflict Resolution:** What were the conflicts that evolved because of the Breast Cancer or as part of the Breast Cancer experiences?

E. **Financial Management:** The general role of money/finance in the relationship

ii. How were you able to pursue diagnosis, treatment etc.

iii. What is the situation in the Breast Cancer journey and what did your spouse do in respect of money?

F. **Leisure activities:** Activities such as Eating together, sleeping together bathing together, going out together, doing things in common generally.

i. What has changed in respect of your leisure activities?

ii. What was it like before your diagnosis, and how did it evolve thereafter?

G. **Sexual relationship**:Can you describe your sexual relationship?

(i). Sexual attractiveness (ii)Who initiates the sex (iii)Frequency (iv)Libido (v)Orgasm

(iv) How has the health challenge shaped the nature of sexual relationship that you have with your spouse?

H. **Children bearing and rearing:** How do you and have you handled your responsibilities as parents as a result of the health challenge?

I. **Family and Friends:** i. What is the relationship with your parents, in-laws and/or friends?

ii. What is their contribution to the relationship as result of the health challenge?

J. **Religious Orientation:** Describe how you and your spouse practice your religious beliefs and values as a result of the health challenge?

7. **(Sick roles: a period in which the woman begins to relinquish some or all normal roles)**
   Which of these sick role has been peculiar to your wife as a result of this ailment?**Lying on the bed for long,Does not go to work,Discuss your ailment wih people around, Seek medical help, Do not attend to husbands needs,Do not attend to family needs,Do not attend to social events,Does not take care of the children**
8. What is your perceived assessment of the relationship between you and spouse after the treatment(**post-treatment**).Are there regrets in your relationship with your spouse?
   Probe for: i. Instability in spousal relationship ii Stability in spousal relationship iii Satisfaction in spousal relationship iv. Dissatisfaction in spousal relationship (v)love
9. i. What has been your coping strategy with the challenges of breast cancer in general?
   ii. What has been your coping strategy with the post-treatment challenges of breastcancer in your spousal relationship?
10. Can you state the influence/ role that people around you (such inlaws, friends, religious group members) are having on your spousal relationship?
11. How do you think that spouses can cope with life after breast cancer treatment?
12. What role can the government /medical professionals/community members play for spouses to cope with life breast cancer treatment?

***Personal questions**:*
Can you let your son marry a woman that has breast cancer?
Will you let him marry a girl with a known family history of breast cancer, though the girl does not have it presently?
*If yes, why?*____

If No, why? ____

If your son's fiancé suddenly develops breast cancer, what would you advice him to do with the relationship?(i)Continue(iii)Discontinue (iii)I don't know

Thank you for your time and response

APPENDIX VII

CASE STUDY GUIDE

Ref:UI/EC/17/0120

1. What do you know about Breast Cancer before the diagnosis?When did you notice the ailment on your breast? **Probe**: Was it, Self diagnosed(Breast Self Examination) or Medically.
2. What were your reactions or dispositions when you were first medically diagnosed?
3. What could be cause of this condition. **Probe:** what are the danger signs a woman should look out for? **Probe:** what could the couple attribute the illness to(lifestyle, diet, hereditary etc)**.**
4. What your relationship before the onset of the illness. **Probe:** Instability, Stability, Satisfaction and Dissatisfaction.
5. What was your relationship after the diagnosis of the illness?
6. What informed your decision in coming to the hospital for treatment?**Probe for**: role of the husband in the type, choice, extent of treatment
7. What are the different roles and responsibilities that were relinquished and assumed as a result of the illness?
8. How has this health challenge affected the spousal relationship? Discuss this in relation to the elements of spousal relationship (*Personality issues, Roles and responsibilities Communication, Conflict Resolution, Financial Management, Leisure Activities, Sexual Relationship, Childbearing and rearing, Family and Friends, Religious Orientation*)
9. Discuss the involvement of your spouse in the following ways. (Protective buffering and active engagement).
10. What was your relationship after the treatment of the illness? **Probe**: Instability, Stability, Satisfaction and Dissatisfaction
11. Identify the various post- treatment coping strategies?
12. What coping mechanism have you adopted as a result of this ailment?
13. What are your advice to spouses having the challenge of breast cancer diagnosis and treatment?
14. What role can the government, medical professionals, community members play for spouses to cope after treatment of BC?

Thank you for your time and response

APPENDIX VIII
QUESTIONNAIRE (COMMUNITY MEMBERS) Ref:UI/EC/17/0120

Department of Sociology
Faculty of the Social Sciences
University of Ibadan, Ibadan

Questionnaire No:			

Date:

Time started………………… Time ended…………………...

Dear Respondent,
I am a postgraduate student of the Department of Sociology, Faculty of the Social Sciences, University of Ibadan, Nigeria. In partial fulfillment for the award of the Doctor of Philosophy (PhD), I am conducting a study on **Breast Cancer and Spousal Relationship in the Ibadan Metropolis, Oyo State, Nigeria.**

Please note that all information generated from this questionnaire is purely for academic purposes, and will be treated with utmost confidentiality.Kindly provide responses to the following questions as honest as possible.
Thanks for your anticipated co-operation.
Yours Sincerely,

Morounfoluwa O. Oyebola

Interviewer, please ensure that the respondent gives his /her consent before commencement of the interview

S/N	Question	Response	Value
I	Interviewer's Name		
II	Location(Specific area)		
III	Name of LGA	Ibadan North	01
		Ibadan North East	02
		Ibadan North West	03
		Ibadan South East	04
		Ibadan South West	05

PLEASE CIRCLE OR FILL IN YOUR RESPONSE
SECTION 1: DEMOGRAPHIC PROFILE OF THE RESPONDENT

No	Question	Category	Coding	Skip To

1	What is your Sex	Male Female	1 2	
2	What is your age as at last birthday? (Actual)	__________	1.	
3	What is your religious affiliation?	Christianity Muslim Traditional Others(specify)__________	1 2 3 4	
4	What is your state of origin?	--		
5	What is your occupation?	Unemployed Employed Others(specify) __________	1 2 3	If unemployed, skip to Q.7
6	How much do you earn monthly?	Less than N0,000.00 N11,000-N50,0000 N51,000-N100,000 N101,000-N150,000 N151,000-N200,000 Above N200,000 ………………………………	1 2 3 4 5 6	
7	What is your level of education?	No formal education Primary education Secondary education Tertiary education Others(specify) ___________	1 2 3 4 5	
8	What is your marital status?	Single Married Separated Divorced Widowed Cohabitation Re-married Others(specify)_____________	1 2 3 4 5 6 7 8	
9	Kindly indicate how many years you have been on your current marital status?	-------------------- years		
10	What is your spouse's highest level of education?	No formal education Primary education Secondary education Tertiary education Others(specify)___________	1 2 3 4 5	
11	What is his/her present occupation?	Unemployed Employed Others(specify)-----------	1 2 3	

SECTION 2: KNOWLEDGE ABOUT BREAST CANCER

12	Have you heard about breast cancer ?	Yes No	1 2	
13	If yes, can you tick from which source you heard it from?	Electronic media(Radio,Televisionetc) Print media(Newspaper, Posters) Internet	1 2 3 4	

		Books Friends Family members Health teams Religious group members Other (specify)_____	5 6 7 8 9	
14	As a health problem in women, how would you rate breast cancer?	Very Serious Serious Not Serious I do not know	1 2 3 4	
15	Are you aware that breast cancer is the commonest cause of death among women in Nigeria today?	Yes,I am aware No, I am not aware	1 2	
16	Do you know of anybody that has breast cancer?	Yes No Don't know	1 2 3	If No,Skip to Q. 18
17	If yes, what is the relationship you have with the person?	Family Friends Neighbour Colleague Others(specify)___________	1 2 3 4 5	

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

Statement		**Yes 1**	**No 2**	**Don't know 3**
a.	Any woman			
b.	Women with family history of breast cancer			
c.	Promiscuous women			
d.	Elites/educated women			
e.	Uneducated women			
f.	High socio-economic class women			
g.	Low socio-economic class women			
h .	Others(Specify)			

19. What are the risk factors that makes one to have breast cancer?

Statement		**Yes 1**	**No 2**	**Don't know 3**
a.	Environmental pollution			
b.	Lifestyle			
c.	Nutrition			
d.	Genetic			
e.	Supernatural			
f.	Others(Specify)			

20. What are the symptoms of Breast Cancer

Statement		**Yes 1**	**No 2**	**Don't know 3**
a.	Changes in the shapes of the breast			
b.	Lump in the breast			
c.	Lump under armpit			
d.	Pain or soreness in the breast			
e.	Fluid coming out of the nipple			
f.	Patches or spot on the breast			

g.	Nipple pain or nipple turning inward			
h.	Enlargement of the breast			
i.	Others (Specify)			

21	In your own understanding how can one get breast cancer?	Not known Communicable disease Non-communicable disease Individual body development Inherited Work of the enemy Other(specify)______	1 2 3 4 5 6 7	
22	How can it be diagnosed?	Cannot be diagnosed Self Breast Examination Mammography Ultrasound Others (specify)______________	1 2 3 4 5	
23	Can it be treated?	Yes No Don't know	1 2 3	

24. What are the treatments options for breast cancer that you know?

Statement		**Yes 1**	**No 2**	**Don't know 3**
a	Traditional medicine			
b	Radiotherapy			
c	Chemotherapy			
d	Lumpectomy			
e	Mastectomy			
f	Hormone therapy			
g	Others (specify)_______________			

25	What are the likely effects of the treatment on the woman?	Body disfigurement Body pain Psychological trauma Social stigma Others (specify)________	1 2 3 4 5	
26	Is it curable?	Yes No Don't know	1 2 3	If No, skip to Q.28
27	If yes, how?			
28	If no, why? ______________________________			
29	Is it preventable?	Yes No Don't know	1 2 3	If No,skip to Q.31
30	If yes, how?			
31	If No, why?			

SECTION 3: BREAST CANCER AND ITS PERCEIVED DYNAMICS ON SPOUSAL RELATIONSHIP

32	Do you think breast cancer can affect the relationships the woman living with breast cancer has?	Yes,Breast Cancer can affect relationships No,Breast Cancer cannot affect relationships I don't know	1 2 3	
33	Please, mention the persons that can be affected by the ailment of the woman living with breast cancer?	Relatives Work Place(colleagues) Religious associate Friends Neighbours Spouse Children Mention others_______________	1 2 3 4 5 6 7 8	Tick as many as applicable
34	Do you think breast cancer can affect the relationship that the woman has with her spouse in particular?	Yes, it can affect the relationship No, it cannot affect the relationship I don't know	1 2 3	

35. Which particular aspect of the spousal relationship would the health challenge(breast cancer) affect?

Statement		**Yes 1**	**No 2**	**Don't know 3**
a.	Understanding each other			
b.	Sharing responsibilities			
c.	Communication			
d.	Conflict resolution			
e.	Spending of money			
f.	Doing things together(eating, sleeping ,bathing, clothing etc			
g.	Sexual Intimacy			
h.	Child bearing			
i.	Child rearing			
j.	Family			
k.	Friends			
l.	Religious commitment			
m.	Others(specify)________________			

36	In your own opinion, can you describe explicitly from the items listed above which one would be most affected by the health challenge of the woman?			
37	What is your reason for Q36?			
38	Can you describe how the chosen aspect of the relationship above will be affected _			
39	**If a Male**: can you marry a woman that has been **diagnosed** with breast cancer?	Yes No I can't say	1 2	If a Female, skip to Q 55

40	What will you do if it happens that your fiancé develops breast cancer?	Stop the relationship Continue Don’t know	1 2 3	
41	Can you marry a woman that has been **treated** of breast cancer?	Yes No Don’t know	1 2 3	
42	Will you marry a woman with a known pedigree of breast cancer, even though the woman does not presently have the cancer visibly on her breast now?	Yes No Don’t know	1 2 3	
43	If yes, why____			
44	If no, Why____			
45	Can you have sex with a woman without a breast?	Yes No Don’t know	1 2 3	If Yes, skip to Q47
46	If No, why?			
47	Have you had sex with a woman without a breast before?	Yes No	1 2	If No, skip to Q50
48	If, yes, who was she too you?	Wife Girl friend Sex mate Others(specify)___	1 2 3 4	
49	Was the sexual activity very pleasurable?	Yes No I can’t say	1 2 3	
50	If No, why____			
51	Assuming your wife suddenly has the ailment, will you stop having sex with her?	Yes No Don’t know	1 2 3	
52	Assuming your wife suddenly has the ailment, what will you do with your relationship	Continue with her Discontinue with her I don’t know	1 2 3	
53	What would be your role in her care?	Take her to the hospital Herbal Treatment Leave her to take her decision Others(Specify)	1 2 3 4	
54	Assuming your daughter suddenly develops breast cancer, what will you do to her	Take her for medical treatment Herbal treatment God forbid I don’t know Other(specify)	1 2 3 4 5	
55	If a **Female can** you let your son marry a woman that has breast cancer?	Yes No Don’t know	1 2 3	
56	Will you let him marry a girl with a known family history of breast	Yes No	1 2	

	cancer, though the girl does not have it herself?	Don't know	3	
57	If Yes, why? ____			
58	If No, why?____			
59	If your son's fiancée suddenly develops breast cancer, what would you advice him to do with the relationship?	Continue Discontinue I don't know	1 2 3	
60	Assuming your grown-up daughter was diagnosed of having breast cancer what will you do?	Take her for medical treatment Herbal treatment God forbid I don't know	1 2 3 4	
61	What will be your assumed reaction if your son's wife has breast cancer?	Seek medical attention Divorce her Not sure of what to do Others (specify)	1 2 3 4	
62	Do you know that women can be screened to detect if they have breast cancer before it manifests in the breast?	Yes No Don't know	1 2 3	
63	Will you be willing to be screened for breast cancer?	Yes No Don't know	1 2 3	
64	If Yes, where should you go for the screening	Hospital Traditional Health care I don't know Others (specify)	1 2 3 4	
65	If No, why?			

SECTION 4: SICK ROLE ADOPTED BY A WOMAN LIVING WITH BREAST CANCER

(**sick role**: a period in which the woman begins to relinquish some or all normal roles)

66. What are the likely sick roles that a woman living with breast cancer assumes?

		Yes 1	**No 2**	**Don't know 3**
a.	Lying on the bed for a long time			
b.	Does not go to work			
c.	Discuss her ailment with people around			
d.	Seek medical help			
e.	Does not attend to her husband's need			
f.	Does not attend to her family needs			
g.	Does not attend social events			
h.	Does not take care of children			
i.	Others (specify)			

67	Do you think her roles in the family changes as a result of the ailment?	Yes No Dont know	1 2 3	

68	Can you identify the roles that could change?	Child bearing Child rearing Domestic Chores Financial obligation Marital obligations Social outings Others (specify)______	1 2 3 4 5 6 7	Tick as many as applicable
69	With the identified options in question (67), kindly provide in your own view an individual who might take up the following responsibilities for the sick woman(woman living with breast cancer)? A.Child bearing B. Child rearing C.Domestic Chores D. Financial obligations E. Marital Obligation F. Social outings G. Others (specify)_	____________________ ____________________ ____________________ ____________________ ____________________ ____________________ ____________________	1 2 3 4 5 6 7	
70	How can the spouses adjust to the change in the roles			
71	How can the spouses' adjust to the change in the responsibilities____ ___			

SECTION 5: PERCEIVED EFFECTS OF BREAST CANCER DIAGNOSIS AND TREATMENT ON SPOUSAL RELATIONSHIP

		Positive	**Negative**	**Undecided**
72	Kindly tick the perceived effect of the **diagnosis** of breast cancer on the following elements of spousal relationship? a. Understanding each other b. Sharing responsibilities c. Communication d. Conflict resolution e. Spending of money f. Doing things together(eating, sleeping,bathing, clothing etc g. Sexual Intimacy h. Child bearing i. Child rearing j. Family			

	k. Friends l. Religious commitment m.Others(specify)________________			
73	Kindly tick the perceived effect of the **treatment** of breast cancer on the following elements of spousal relationship? a. Understanding each other b. Sharing responsibilities c. Communication d. Conflict resolution e. Spending of money f. Doing things together (eating, sleeping, bathing, clothing etc g. Sexual Intimacy h. Child bearing i. Child rearing j. Family k. Friends l. Religious commitment m. Others(specify)________________			

74. In your own opinion, what is your advice on coping mechanism to the following people?

a. The woman living with breast cancer ___________________________________

b. The spouse(man)____

c. Their families ____

d. Community members____

75. In your own understanding how would you assist/advice a known person with breast cancer to handle her spousal relationship?

APPENDIX IX

(Yoruba translation of Interview guide for WLBC) Ref:UI/EC/17/0120

IFOROWANILENUWO PELU AWON OBINRIN TI O NI ARUN JEJERE OMU

Oruko mi ni Morounfoluwa O. Oyebola.Mo je akeko ni ipele giga ni eko imo ijinle nipa ibasepo eda, ipele imoara sesi la tile iwe giga ni Unifasity ilu Ibadan. Mo se ise iwadi lori **ipa ti Arun jejere omu nkolori Ajumowapo Loko-Laya ni ilu Ibadan, Ipinle Oyo, Naijiria.**

Mo fe ki e mo wipe ohun gbogbo ti e ba so ninu iforowanilenuwo yi wa fun eko imo iwe nikan, ati wipe kii se fun gbogbo eniyan lati mo nkan ti a jo so yi. Nitori idi eyi, nje e fowosi lati tesiwaju pelu ibeere naa, ati wipe, n o ma gba ohun yin sile?

Beeni ( ) Beeko ( )

Ojo ……………………………………… Ibiti a ti se ibeere………………………………

Asiko ti a bere …………………………….. Asiko ti a pari…………………………

Nomba	Ibeere	Idahun
I	Kini Ojo Ori Yin	
II	Esin won ni e nsin	
III	Ipinle Naijiria won ni e ti wa	
IV	Ise won ni e nse	
V	Ipele Eko wo ni e ni	
VI	Odun melo ni e ti wa ni ile oko	
VII	Iru arun jejere omu won i e ni (ti e e ba mo)	

1. Kini e ti e mo nipa aarun jejere omu ki o to di igba ti e se ayewo yi?
   Bawo ni e se mo wipe e ni arun jejere omu?**Se iwadi** : Igba (akoko), Nibo, tani o se ayewo naa?
2. Bawo ni e se koko gba iroyin naa ni wipe e ni arun jejere omu.
   Bawo ni oko (Baale) yin se gba iroyin naa wipe e ni arun jejere omu?
3 Kini ipa ti Baale yin ko nipa mimo pe eni arun jejere omu yii? Iru iranlowo wo ni Baale yin fun yin nigba ti e lo se ayewo fun arun jejere omu yii?

4 Kini awon ipa ti oko yin ko nigba ti e bere sii se itoju aisan yi?
Se iwadi: Se won fi iporuru okan ati iberu won pamo? Se won fi iporuru okan ati iberu won han? Won si kopa ninu iforo jomitoro oro lori wahala naa?
Nipa iru itoju ti e gba, **Se iwadi** kini awon okunfa iru itoju,ibi ti e ti e gba itoju ati beebe lo ?

5. Nje e lo soro nipa ibagbepo/ibalopo yin pelu Baale/Oko yini (a)ki e to se iwadi nipa aisan yin (b) Leyin igba ti e se iwadi, ti e si ni amin idaniloju pe e ni arun jejere omu (d) Ni kete ki e to bere itoju ni ile-iwosan (e) Ati leyin igba ti e pari itoju ile iwosan?
6. (**Ao beere lowo awon obinrin naa niitokasi awon eka Pataki ninu ibalopo/ibasepo pelu Oko/Baale won, ipa eyi ti arun jejere omu n ko**
   A. **Ihuwasi** (a) Nje eyin ati Oko/Baale yin ma ngbo ara yin ye daadaaa? (ii) Nje awon ihuwasi won te yin lorun nigbati e ti ni idojuko aisan yi.
   B. Ojuse (i) Kini ati bawo ni awon ojuse yin ninu ajowa/ajose yin pelu Oko/Baale se ri yin tele ri (ii) Kini awon ojuse naa ti e ko le se mo nigba ti e ni aisan yi? (iii) Kini awon ojuse yin nipa to ti Oko/Baale yin bere si se nigba ti e ni aisan yi? (iv) Nje Oko/Baale yin le se awon ojuse naa bi o ti to, ati bi o ti ye?

   D. **Isoropo:**(i) Bawo ni isoro ati igbese laarin eyin ati oko yin se ri ki e to bere aisan yii (ii) Nigba ti e bere aisan yi, bawo ni isoro-igbesi larin eyin ati Oko/Baale yin se ri? (iii) Awon oro ife: Se

Oko yin maa nso oro ife (iwunilori) si yin nigba ti e bere aisan yi bii “Temi nikan soso”, “Iya awon Omo mi” ati bebe lo. (iv) Oro lati yanju isoro: Nje eyin ati Oko yin maa nle soro pelu itumo ati abayori lori awon isoro ti idile yin ba n la koja?

E. **Yiyanju Ija/Dukuu:** Kini awon ija/dukuu ti o je yo laarin yin ati Oko/Baale yin nitori e ni arun jejere omu yi? ii. bawo ni e se n yanju re?

E. **Eto Isuna:** (i) Bawo ni e se nse eto isuna ninu ile yin? (ii) Bawo ni e se nri owo lati fi se ayewo, itoju aisan yin yi. (iii) Kini irin ajo ninu aisan yi pelu eto isuna pelu oko/bale yin?

F. **Sise Faaji:** Jije ounje papo, sisun papo, wiwe papo, ijade papo, wiwo aso kannaa ati bee bee lo: (i) Kini awon iyato ti o de baa won ise faaji yin papo? (ii) Bawo ni o se ri ki e to se ayewo, ati wipe awon iyipada wo lo ti de baa?

G.**Ibalopo (Ere Ife)**: (i) Nje e le soro le lori? (Bawo ni e se ro wipe e se maa nwu Oko yin (ii) Tani o koko maa n bere fun ere ife yii (iii) Igba melo ni e maa nse lose/losu (iv) Se ara yin ma nji pepe fun ere ife (v) Se e ma ngbadun ara yin ti e ba pari ere ife naa?

GB. **Bibi ati Titoju Omo:** Bawo ni e ti se doju ko awon ise yin gege bi iya ati obi si awon omo nitori aisan ti e ni yii?

H. **Ebi ati Ore:** i. Kini ibadapo/ibasepo yin pelu awon obi, ara ile oko yin, ati /tabi awon ore yin

ii. Ipa wo ni won ko nipa aisan yin gege bi eni kookan?

I. **Oro Esin ati pipe Olorun**: Bawo ni oro esin ati pipe olorun yin se ri, ki e to bere ati nigba ti e bere aisan yii?

7. **(Ise-Alaisan**:Eyi ni akoko ninu aye obinrin ti o n se aisan, ti ko le se die tabi gbogbo awon ojuse miiran mo)
   E wo ninu awon ise-alaisan ni o n se, nigbati aisan yii bere si i i se o ?**Sisun lorin fun igba pipe,Ai lo si ibi ise,Bi ba awon eniyan layi ka soro nipa aisan naa,Wi wa eto itoju oyinbo, A i lee toju OKo dara dara,A i le tooj gbogbo ile, A i le lo si ibi ariya, A i le toju awon omo**
8. Ni iwoye yii, bawo ni e se le salaye ibasepo/ibagbepo eyin ati oko/Baale yin leyin igba ti e ti gba orisirisi itoju ni ile-iwosan yii? **Iwadi fun** (i) Ko dan moran mo (ii) O dan moran, o si se daadaa
   (iii) Ayo ati idunnu (iv) Ibanuje ati ailayo.
9 (i) Bawo ni e ti se n gbe igbesi aye yin gege bi enikan leyin gbogbo nkan won yii?

   (ii) Bawo ni e tu se n gbe igbesi aye loko-laya yin leyin itoju ile iwosan yii?

10. Nje e le so ni soki, ipa ti awon wonyi (Ana, Ore, Ara Ijo kanna, Aladugbo) ko ni ibagbepo/ajosepo eyin ati oko yin ?
11. Ninu ero yin bawo ni loko-laya se le gbe igbesi aye won leyin itoju arun jejere-omu yii
12. Ipa wo ni awon ijoba/Awon Olutoju ile iwosan/Ara adugbo le ko nipa aseyori gbigbe laarin loko-laya, lori imularale, imulokanle.

Awon ibeere *:Nje o le je ki omo Okunrin re ki o fe Obinrin ti o ba ni arun jejere-omu ?*
**Nje o le je ki O fe Obinrin ti won ni akosile arun jejere-omu ni iran won, bi o ti le je wipe omobinrin yii ko ni aarun naa rara bayi*
**Ti o ba je beeni,kini idi abajo ?*
**Ti o ba je wipe rara,kini idi abajo ?*
**Ti afesona omo re Okunrin ba deede ni arun jejere-omu yii, irun amoran woo ni iwo yoo fun omo ore ?(i)Ki won maa fe’ra won (ii)Ki won da ajosepo naa ru (iii)Emi ko mo*

Mo dupe pupo fun akoko ati awon idahun yin.

APPENDIX X

(Yoruba translation of Interview guide with Spouse of WLBC) Ref:UI/EC/17/0120

IFOROWANILENUWO PELU OKO/BAALE AWON OBINRIN TI O NI ARUN JEJERE OMU

Oruko mi ni Morounfoluwa O. Oyebola. Mo je akeko ni ipele giga ni eko imo ijinle nipa ibasepo eda, ipele imoara sesi la tile iwe giga ni Unifasity ilu Ibadan. Mo se ise iwadi lori **ipa ti Arun jejere omu nkolori Ajumowapo Loko-Laya ni ilu Ibadan, Ipinle Oyo, Naijiria.**

Mo fe ki e mo wipe ohun gbogbo ti e ba so ninu iforowanilenuwo yi wa fun eko imo iwe nikan, ati wipe kii se fun gbogbo eniyan lati mo nkan ti a jo so yi. Nitori idi eyi, nje e fowosi lati tesiwaju pelu ibeere naa, ati wipe, n o ma gba ohun yin sile?Beeni (   )   Beeko (   )

Ojo ……………………………………Ibiti a ti se ibeere…………………………………….

Asiko ti a bere ……………………………Asiko ti a pari…………………………………

Nomba	Ibeere	Idahun
I	Kini Ojo Ori Yin	
II	Esin won ni e nsin	
III	Ipinle Naijiria won ni e tiwa	
IV	Ise won ni e nse	
V	Ipele Eko wo ni e ni	
VI	Odun melo ni e ti wa papo gege bi loko-laya	
VII	Iru arun jejere omu won i e ni (ti e e ba mo)	

1. Kini imo yin nipa aarun jejere omu ki o to di igba ti iyawo yin se ayewo yi?Bawo ni aya yin se mo wipe awon ni arun jejere omu? **Iwadu fun:** Igba (akoko), Nibo, Tani o se ayewo naa fun?
2. Bawo ni e se koko se nigba ti e gbo esi ayewo naa? Bawo ni iyawo yin se se nigba ti o gba esi ayewo naa?
3. Kini ipa ti e ko nigba ti won fe lo se ayewo naa?Kini iranlowo ti e ko nipa lilo fun ayewo naa
4. Kini awon ipa ti e ko nigba ti won fe lo se itoju? **Iwadi Fun** : Se e fi iporuru okan ati iberu yin pamo? Se e fi iporuru okan ati iberu yin han? E si kopa ninu iforo- jomitoro lori wahala naa?
5. Nje e lo soro nipa ibagbepo/ibalopo yin pelu Aya yin ki (a) e to se iwadi nipa aisan yin (b) Leyin igba ti e se iwadi, ti e si ni amin idaniloju pe aya yin ni arun jejere omu (d) Ni kete ki won to bere itoju ni ile-iwosan (e) Ati leyin igba ti won pari itoju ile iwosan?
6. (**Ao beere lowo awon okunrin naa niitokasi awon eka Pataki ninu ibalopo/ibasepo pelu Aya won, ipa eyi ti arun jejere omu n ko**
   - A. Ihuwasi (a) Nje eyin ati Aya yin ma ngbo ara yin ye daadaaa ? (ii) Nje awon ihuwasi won te yin lorun nigbati won ti ni idojuko aisan yi.
   - B. Ojuse (i) Kini ati bawo ni awon ojuse yin ninu ajowa/ajose yin pelu Aya yin se ri tele ri (ii) Kini awon ojuse naa ti won ko le se mo nigba ti won ni aisan yi ?(iii) Kini awon ojuse naa ni pato ti eyin(Oko/Baale) bere si se nigba ti won ni aisan yi? (iv) Nje e (Oko/Baale) le se awon ojuse naa bi o ti to, ati bi o ti ye?
   - D Isoropo :(i) Bawo ni isoro ati igbesi laarin eyin ati aya yin se ri ki won to bere aisan yii (ii) Nigba ti won bere aisan yi, bawo ni isoro-igbesi larin eyin ati Aya yin se ri? (iii) Awon oro ife : Se E maa nso oro ife (iwunilori) si Aya nigba ti won bere aisan yi bii “Temi nikan soso”,

"Iya awon Omo mi" ati bebe lo. (iv) Oro lati yanju isoro: Nje eyin ati Aya yin maa nle soro pelu itumo ati abayori lori awon isoro ti idile yin ba n la koja?

E. Yiyanju Ija/Dukuu : Kini awon ija/dukuu ti o je yo laarin yin ati Aya yin nitori won ni arun jejere omu yi? ii. Bawoni e se n yanju re?

E. Eto Isuna: (i) Bawo ni e se nse eto isuna ninu ile yin? (ii) Bawo ni e se nri owo lati fi se ayewo, itoju aisan yi fun Aya yin. (iii) Kini irin ajo ninu aisan yi pelu eto isuna pelu Aya yin?

F. Sise Faaji : Jije ounje papo, sisun papo, wiwe papo, ijade papo, wiwo aso kannaa ati bee bee lo lo: (i) Kini awon iyato ti o de baa won ise faaji yin papo ? (ii) Bawo ni o se ri ki iyawo yin to se ayewo, ati wipe awon iyipada wo lo ti de baa yin papo?

G. Ibalopo (Ere Ife): (i) Nje e le soro le lori ? (Bawo ni e se ro wipe Iyawo yin maa nwu yin (ii) Tani o koko maa n bere fun ere ife yii (iii) Igba melo ni e maa nse lose/losu (iv) Se ara Iyawo yin ma nji pepe fun ere ife (v) Se eyin ati Aya yin maa ngbadun ara yin ti e ba pari ere ife naa?

GB. Bibi ati Titoju Omo : Bawo ni Aya yin ti se doju ko awon ise won gege bi iya ati obi si awon omo nitori aisan ti won ni yii?

H. Ebi ati Ore: i. Kini ibadapo/ibasepo yin pelu awon obi, ara ile (oko) yin, ati /tabi awon ore yin ii. Ipa wo ni won ko nipa aisan yi gege bi eni kookan?

I. Oro Esin ati pipe Olorun: Bawo ni oro esin ati pipe olorun yin se ri, ki Aya yin to bere ati nigba ti won bere aisan yii?

7. (**Ise-Alaisan :**Eyi ni akoko ninu aye obinrin ti o n se aisan, ti ko le se die tabi gbogbo awon ojuse miiran mo)
E wo ninu awon ise-alaisan ni o n se, nigbati aisan yii bere si i i se iyawo re ?**Sisun lorin fun igba pipe,Ai lo si ibi ise,Bi ba awon eniyan layi ka soro nipa aisan naa,Wi wa eto itoju oyinbo, A i lee toju OKo dara dara,A i le tooj gbogbo ile, A i le lo si ibi ariya, A i le toju awon omo**
8. Ni iwoye yin, bawo ni e se le salaye ibasepo/ibagbepo eyin ati Aya yin leyin igba ti won ti gba orisirisi itoju ni ile-iwosan yii? **Iwadi fun** (i) Ko dan moran mo (ii) O dan moran, o si se daadaa (iii) Ayo ati idunnu (iv) Ibanuje ati ailayo.
9. (i) Bawo ni e ti se n gbe igbesi aye yin gege bi enikan leyin gbogbo nkan won yii?
(ii) Bawo ni e tu se n gbe igbesi aye loko-laya yin leyin itoju ile iwosan yii?
10. Nje e le so ni soki, ipa ti awon wonyi (Ana, Ore, Ara Ijo kanna, Aladugbo) ko ni ibagbepo/ajosepo eyin ati Aya yin?
11. Ninu ero yin bawo ni loko-laya se le gbe igbesi aye won leyin itoju arun jejere-omu yii ?
12. Ipa wo ni awon ijoba/Awon Olutoju ile iwosan/Ara adugbo le ko nipa aseyori gbigbe laarin loko-laya, lori imularale, imulokanle.

***Awon ibeere**:Nje o le je ki omo Okunrin re ki o fe Obinrin ti o ba ni arun jejere-omu ?*
**Nje o le je ki O fe Obinrin ti won ni akosile arun jejere-omu ni iran won, bi o ti le je wipe omobinrin yii ko ni aarun naa rara bayi*
**Ti o ba je beeni,kini idi abajo ?*
**Ti o ba je wipe rara,kini idi abajo ?*
**Ti afesona omo re Okunrin ba deede ni arun jejere-omu yii, irun amoran woo ni iwo yoo fun omo ore ?(i)Ki won maa fe'ra won (ii)Ki won da ajosepo naa ru (iii)Emi ko mo*
Mo dupe pupo fun akoko ati awon idahun yin.

APPENDIX XI

(Yoruba translation of Case-study guide)

ASAYAN IRIRI LAARIN LOKO-LAYA

1. Kini imo yin nipa aarun jejere omu ki e to se ayewo yi?N'igba wo ni e koko mo wipe e ni arun jejere omu yii? **Iwadi fun** : Mi mo funra eni tabi ni ile iwosan ?
2. Bawo ni e se koko huwa nigbati won so fun yin ni ile iwosan pe, e ni arun jejere omu?
3. Kini e ro pe o le fa arun naa: **Iwadi fun**: (i) Kini awon amin ti o ye ki eniyan ma sora fun ? (ii) Kini awon loko-laya le toka si bi okunfa aisan yii (Igbesi aye gbigbe, ounje, ajogunba ati beebe lo)
4. Bawo ni ibalopo/ibagbepo loko-laya yin se ri ki e to bere aisan yii?
5. Bawo ibalopo/ibagbepo loko-laya yin leyin ti e ti se ayewo ti e si ti mo daju pe e ni arun jejere omu
6. Ipa wo ni oko yin ko ni itoju yin ni ile-iwosan ?**Iwadi fun**: Iru iwosan, iru itoju, gbedeke itoju
7. Kini awon Ise ati Ojuse yin ti e ko le se, nigba ti aisan yi bere ati nigba ti e bere sii se aisan yii gan.
8. Ipa wo ni aisan yin ni lori ibalopo/ibagbepo loko-laya yin ? (ihuwasi, ojuse si ara eni ati ile, ibasoropo, yiyanju dukuu, eto isuna, faaji sise, ere ife, omo bibi ati tito, ebi, ore, esin sise)
9. E soro lori ipa ti oko yin ko (nje won fi iberu ati ijaya won han, abi won fi pamo lori ayewo ati itoju ile iwosan?
10. Bawo ni ibalopo/ibagbepo loko-laya yin se ri leyin ti e ti gba gbogbo itoju ti o ye?
11. E soro lori awon orisirisi ona ti eniyan fi le mu ara re lokan le,leyin gbogbo awon itoju wonyii?
12. Ni Pataki julo, kini ona ti eyin funra yin fi mura yin lokan le ati ara le lori aisan yi?
13. Kini imoran ti e le fun awon loko-laya ti won ba ni idoju ko yi, ki won to lo se ayewo, leyin ayewo ati leyin itoju?
14. Kini ipa ti ijoba, osise ile-iwosan, aladugbo le ko larin loko-laya ki won le jo wa po leyin itoju arun jejere omu yii ?

Mo dupe pupo fun akoko ati awon idahun yin.

APPENDIX XII
(Yoruba translation of Questionnaire for Commuity Members) Ref:UI/EC/17/0120
IBEERE INU IWE

Department of Sociology
Faculty of the Social Sciences
University of Ibadan, Ibadan

Questionnaire No:			

Date:

Asiko ti a bere…………………
Asiko ti a pari………….

Siwaju,

Mo je akeko ni ipele giga ni eka imo ijinle nipa ibasepo eda, ipele imoara siesi lati ile iwe giga ti Unifasity ilu Ibadan. Mo n se iwadi lori: **Ipa ti arun jejere omu nko ninu ori ibagbepo loko-laya, ni ilu Ibadan, Ipinle Oyo, Naijiria.**

Mo bere fun idahun loori gbogbo awon ibeere inu iwe yi, bi o se je wipe o wa fun eko iwe nikan ni, ao si fi pamo lai se ofofo. Mo ro yin wipe ki e fun mi ni idahun ti o to si awon ibeere won yi.

Mo dupe pupo lowo yin fun ifowosowopo yin

Emi ni tiyin nitooto,

Morounfoluwa O. Oyebola

Oluwadi, e jowo e ri pe oludahun fun yin ni aye lati se iwadi ki e to bere iwadi sise.

S/N	Ibeere	Idahun	Atoka
I	Oruko Oluwadi		
II	Adugbo (Nipato)		
III	Oruko Ijoba Ibile	Ibadan North	01
		Ibadan North East	02
		Ibadan North West	03
		Ibadan South East	04
		Ibadan South West	05

Jowo fi fala tabi kosile awon idahun re
ABALA KIINI : MIMO NIPA ENITI O NBERE

S/N	Awon Ibeere	Idahun	Atoka	Koja si
1.	Kini Iseda re?	Ako Abo	1 2	
2.	Kini Ojo ori re ni Ojo ibi ti o se koja ?		1	
3	Kini Esin ti o nsin ?	Onigbagbo Musulumi Adayeba Omiran (tokasi)__________	1 2 3 4	
4	Kini Ijoba Ipinle ti o ti wa?			

5	Ise wo ni o nse?	Nko ni ise lowo Mo ni ise ti mo nse Omiran (tokasi)	1 2 3	Nko ni ise,koja si ibeere (7)
6	Elo ni o nmu re ile lati ibi ise ?	O kere si N10,000 N11,000 – N50,000 N51,000 – N100,000 N101,000-N150,000 N151,000 – N299,999 O poju N200,000	1 2 3 4 5 6	
7	Nibo ni o ka iwe de ?	N ko lo si ile iwe rara Ile eko alakobere Iile eko Girama Ile eko giga Omiran, jowo, salaye	1 2 3 4 5	
8	Kini ipo igbeyawo re bayi?	Apon ti ko ti gbeyawo Mo ti se igbeyawo Akogbepapo A ti jawe funrawa Opo A ngbepo laisegbeyawo Mo tun igbeyawo se si elomiran Omiran(jowo salaye)___	1 2 3 4 5 6 7 8	
9	Nje o le so nipato, iye odun ti o ti wa ni ipele igbeyawo ti o wa bayi)_______________			
10	Kini eko ti o ga ju lo ti oko/aya re ni ?	Ko lo si ile iwe rara Ile eko alakobere Ile eko Girama Ile eko giga Omiran(jowo salaye)	1 2 3 4 5	
11	Ise wo ni o nse lowo?	Ko ni ise lowo O ni ise Omiran(jowo salaye)____	1 2 3	

ABALA KEJI: IMO NIPA ARUN JEJERE OMU

12	Nje o ti gbo nipa arun jejere omu?	Beeni Beeko	1 2	
13	Ti o ba je beeni, nje o le toka si ona ti o fi gbo nipa re ?	Telefisan, Redio Iwe Irohin Ero ayelujara Iwe Kika Ore Ebi Awon osise eto ilera Ile Ijosin Omiran(jowo salaye)____	1 2 3 4 5 6 7 8 9	
14	Gege bi eto ilera ti o lagbara, bawo ni o se salaye bi arun jejere omu se ri ?	O lagbara gan O lagbara die Ko lagbara Emi ko mo	1 2 3 4	
15	Nje o mo wipe arun jejere omu je okufa iku ti o wo po ju lo fun awon obinrin ni ile Naijiria?	Beeni, mo mo Beeko, nko mo	1 2	

16	Nje o mo enikeni ri ti o ni arun jejere omu yii?	Beeni Beeko Nko mo	1 2 3	
17	Bi beeni, bawo ni eni naa se je si o ?	Molebi mi Ore Aladugbo Ojulumo Omiran(jowo salaye)	1 2 3 4 5	

18. Tani o ro pe o le ni arun jejere omu yii ?

S/N	**Oro**	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Ko si Obinrin ti ko le ni			
B	Obinrin ti won ba ni iru re ninu iran won			
D	Awon Obinrin alagbere			
E	Awon Obinrin ti won ka iwe			
E	Awon Obinrin ti won ko ka iwe			
F	Awon Obinrin ti won lowo lowo			
G	Awon Obinrin ti won ko lowo lowo			
Gb	Awon miran (salaye)_______________			

19. Kini awon nkan ti n ma nje ki obirin ni arun jejere omu ?

S/N	**Oro**	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Awon ohun oloro ni adugbo ti eniyan ngbe			
B	Iru aye ti eniyan ngbe			
D	Ounje ti eniyan ba nje			
E	Ajogunba			
E	Aditu			
F	Omiran, jowo salaye________________			

20. Kini awon ifarahan arun jejere omu?

S/N	**Oro**	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Ayipada ninu irisi omu			
B	Wiwu lara omu			
D	Wiwu labe abiya			
E	Didun tabi egbo lara omu			
E	Etutu lati ori omu			
F	Ori omu a ko wonu			
G	Awon apa lara omu			
Gb	Omu a tobi pupo			
I	Omiran , jowo salaye_______________			

21	**Awon Ibeere**	**Idahun**	**Atoka**	**Koja si**
	Gegebi imo yin, bawo ni eniyan se le ni arun jejere omu ?	Emi o mo. Arun ti o ma n ran ni Arun ti kii ran ni Idagbasoke ninu ago ara Ajogunba Ise Awon Ota Omiran(salaye)________	1 2 3 4 5 6 7	
22	Bawo ni a se le da aisan jejere omu mo ?	A ko le damo Fun rara eniyan Irin nla ti Oyinbo(mammography) Aworan yiya ti oyinbo(ultrasound) Omiran(salaye)________	1 2 3 4 5	
23	Se a le se itoju fun arun naa ?	Beeni Beeko Emi Ko mo	1 2 3	

24.Awon ona wo lati fi le se itoju arun jejere omu ti o mo ?

S/No	**Oro**	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Ogun ibile			
B	Lilo ina inu machine			
D	Lilo ogun oyinbo			
E	Gige die ninu omu			
E	Gige gbogbo omu naa			
F	Lilo ogun ti o ba ara mu(Hormone Therapy)			
G	Omiran(salaye)_______________			

25	Kini awon abuku awon itoju wonyi lara obinrin ti o ni arun jejere omu yi?	Yoo ba ago are je Ara didun Ibanilokanje Abuku adugbo (social stigma) Omiran(salaye)_________	1 2 3 4 5	
26	Se arun naa se wo lawo tan ?	Beeni Beeko Emi ko mo	1 2 3	Bi Beeko, koja si ibere 28
27	Bi beeni, bawo ni yoo sele?____			
28	Bi beeko, kini idi ti e fi so bee____			
29	Se a le dena aarun naa ?	Beeni Beeko Nko mo	1 2 3	Bi Beeko,koja si ibeere 31
30	Bi o ba je beeni, bawo ni a se le dena arun naa ?____			
31	Bi Beeko, kini idi re ti a ko fi le dena aarun naa?____			

ABALA KETA: IWOYE NIPA ARUN JEJERE OMU ATI IBASEPO/IBAGBEPO LOKO-LAYA

32	Nje O ro wipe arun jejere omu le se akoba fun awon ajosepo ti obinrin naa ni pelu awon eniyan ti o yi ka?	Beeni, o le se akoba fun ajosepo Beeko, ko le se akoba fun ajosepo Emi ko mo	1 2 3	

33	Nje O le toka si awon iru eniyan bee ti ajosepo won pelu obinrin naa le se akoba fun?	Molebi Alaba sise po Olujosin papo Ore Ara Adugbo Baale/Oko Omo Awom miran (salaye)	1 2 3 4 5 6 7 8	
34	Nje O ro pe arun jejere omu naa le se akoba fun ajosepo/ajogbepo loko-laya ni Pataki julo?	Beeni, o le se akoba Beeko, ko le se akoba Emi ko mo	1 2 3	

35.Ni pato, toka si awon ipa ajosepo loko-laya ti o mo wipe arun jejere omu yii le se akoba fun?

	Oro	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Gbigbo ara eni ye ati gbigba enikeji bi o se wa			
B	Gbigbo bukata ninu ile			
D	Siso oro ti o dan moran			
E	Yiyanju aawo (Ija)			
E	Sise gbogbo nkan papo (ounje jije, sisun, wiwe, aso wiso			
F	Sise ere ife			
G	Omo bibi			
GB	Omo tito			
H	Ebi			
I	Ore			
J	Esin sise			
K	Omiran (salaye			

36	Ninu awon koko ti a ko si oke yii, e wo ninu won ni aisan obinrin naa yio se akoba fun ju lo? ____			
37	Nje e le se alaye fun idi ti e fi toka si idahun yin ni ibeere 36? ____			
38	Nje e le se apejuwe bi aisan naa yoo se se akoba fun itoka si yin? ____			
39	**Okunrin:**: Nje o le se igbeyawo pelu obinrin ti o ti se ayewo ti o si ni arun jejere omu ?	Beeni Beeko Nko le se o	1 2 3	Bi o ba je obinrin, koja si ibeere 55
40	Nje kini iwo yoo se ti o ba je wipe afesona re obinrin de de se ayewo o si so fun o pe oun ni arun jejere omu?	Maa fi sile Mi o ni fi sile Mi o mo nkan ti maase	1 2 3	
41	Nje o le fe eni ti won ti se gbogbo itoju fun kuro ninu arun	Beeni	1	

	jejere omu?	Beeko Emi ko mo	2 3	
42	Nje o le fe obinrin ti o mo wipe awon iran re kan ti ni arun jejere omu ri, botilejepe obinrin ti o n fe yi ko ni arun naa ni ara re?	Beeni Beeko Emi ko mo	1 2 3	
43	Ti o ba je beeni, ki lo de? ____ _____			
44	Ti o ba je beeko, ki lo de? ____ _____			
45	Nje o le ba obinrin ti ko ni omu se ere-ife po?	Beeni Beeko Emi ko mo	1 2 3	Ti o ba je beeni, koja si ibeere 47
46	Ti o ba je beeko, kini idi re ? ____ _____			
47	Nje o ti ba obinrin ti ko ni omu se ere-ife ri?	Beeni Beeko Emi ko mo	1 2 3	Ti o ba je beeko, koja si ibeere 50
48	Bi o ba je beeni, bawo obinrin naa se je si o?	Iyawo Afesona Alabasun Omiran (salaye)__	1 2 3 4	
49	Nje o gbadun ere-ife naa rara?	Beeni Beeko Nko le so	1 2 3	
50	Bi o ba je wipe idahun re je beeko, salaye idi abajo re? ____ _______			
51	Bi o ba je wipe iyawo ti o fe sile re, dede ni arun jejere omu yi, nje o si wo lati ma a ba sun orun-ife ?	Beeni Beeko Nko le so	1 2 3	
52	Bi o ba je wipe iyawo ti o fe sile re, dede ni arun jejere omu yi, nje iwo o dagbere fun ajumo gbepo/ajowapo?	Beeni Beeko Nko le so	1 2 3	
53	Ipa wo ni iwo yoo ko ninu itoju obinrin naa?	Mu lo si ile iwosan Itoju Ibile Fi sile ki obinrin naa se ipinnu ara re Omiran(salaye)___	1 2 3 4	
54	Ti o ba sele wipe omo re obinrin dede ni arun jejere omu yi, ki lo o se pelu re?	Mu lo si ile iwosan Itoju Ibile Olorun o ni je Emi ko mo Omiran(salaye)___	1 2 3 4 5	
55	**Obinrin:** Nje o le je ki omo re okunin fe obinrin ti o arun jejere omu?	Beeni Beeko Emi ko mo	1 2 3	

56	Nje o le je ki omo re okunrin fe obinrin ti e mo wipe enikan ninu idile won ti ni arun jejere omu ri, bi o tile je wipe omo obinrin ti e yin nfe ko ni arun naa bayi?	Beeni Beeko Emi ko mo	1 2 3	
57	Ti o ba je beeni, kini idi abajo? ____			
58	Ti o ba je beeko, kini idi abajo? ____			
59	Ti omo re Okunrin ba so fun o wipe, sa dede ni afesona oun ni arun jejere omu, iru amoran wo ni waa fun nipa ajorinpo won?	Ki won tesiwaju Ki won tu ka Emi ko mo	1 2 3	
60	Ti o ba je wipe, sa dede ni omo re obinrin ti o dagba naa so fun o pe oun ni arun jejere omu, kini iwo yoo se?	Mu lo si ile iwosan Itoju Ibile Olorun maje Emi ko mo Omiran(salaye)	1 2 3 4 5	
61	Ti o ba sele wipe, iyawo ti omo okunrin re ti o fe sile dede ni arun jejere omu, kini iwo yoo se?	So fun ki o lo si ile iwosan So fun omo mi ki o Ko obinrin naa sile Mi o mo nkan ti n o se Omiran(salaye)__	1 2 3 4	
62	Nje o mo wipe a le tete se ayewo fun obinrin boya o ni arun jejere omu ki o to di igba ti yoo fi ara han lori omu re?	Beeni Beeko Emi ko mo	1 2 3	
63	Nje iwo yoo fe ki won se ayewo fun o, fun jejere omu?	Beeni Beeko Emi ko mo	1 2 3	
64	Ti o ba je beeni, ibo ni o ye ki e ti se ayewo naa?	Ile Iwosan oyinbo Ile iwosan ibile Nko mo Omiran(salaye)	1 2 3 4	
65	Ti o ba je beeko, kini idi re? ____			

ABALA KERIN: IPO ATI IHUWASI ALAISAN, FUN OBINRIN TI O NI ARUN JEJERE OMU

66. Kini awon ihuwa ti alaisan obinrin ti o ba ni arun jere omu ma a n se?

S/N	**Oro**	**Beeni 1**	**Beeko 2**	**Nko mo 3**
A	Yoo maa sun lorin ibusun fun igba pipe			
B	Ko ni lo si ibi ise			
D	Yoo maa soro nipa aisan fun awon eniyan layika re			
E	Yoo ma wa itoju kiri ile iwosan			
E	Ko ni le da si awon aini oko re			
F	Ko ni le da si awon bukata ile re			
G	Ko ni le da si awon nkan ayika re			
Gb	Ko ni le toju awon omo re			
I	Omiran (salaye)____________________			

67	Nje o ri wipe awon ojuse re yoo yipada ninu ile nitori aisan naa?	Beeni Beeko Emi ko mo	1 2 3	
68	Nje o le toka si awon ojuse obinrin naa ti yoo yi pada ?	Omo bibi Omo tito Ise ile sisie Fifi owo sile ninu ile Ojuse loko-laya Lilo si ode ariya Omiran, salaye	1 2 3 4 5 6 7	Fi ami si iye ti o ba toka si.
69	Ninu awon idahun si ibeere 68, daruko awon ti o le ba obinrin ti o ni aisan jejere omu yi, se ise awon ojuse re wonyi: a. Omo bibi b. Omo tito d. Ise Ile sise e. Fifi owo sile ninu ile e. Ojuse loko-laya f. Lilo si awon ode ariya g. Omiran, salaye	______________________________ ______________________________ ______________________________ ______________________________ ______________________________ ______________________________ ____________	1 2 3 4 5 6 7	
70	Bawo ni oko-iyawo se le se pelu awon ayipada si awon ise ti o ye ki obinrin naa maa se? ____			
71	Bawo ni oko-iyawo se le se pelu awon ayipada ninu awon ojuse iyawo re ti o ti yi pada wonyin? ____			

ABALA KARUN: AWON IPA TI AYEWO ATI ITOJU ARUN JEJERE OMU LE NI LAARIN AJOSEPO LOKO-LAYA

S/N	**Oro**	**Beeni**	**Beeko**	**Emi ko le so**
72	Jowo toka si ipa ti okunfa **ayewo** arun jejere omu le ni lori awon ipinle wonyi laarin ajosepo loko-laya? a.Gbigbo ara eni ye ati gbigba enikeji bi o se wa b. Gbigbo bukata ninu ile d. Ajosoye oro e. Yiyanju dukuu (Ija) E. Eto isuna f. Sise gbogbo nkan papo (ounje jije, sisun, wiwe, aso wiso g. Sise ere ife gb. Omo bibi h. Omo tito i. Ebi j. Ore k. Esin sise l. Omiran (salaye)______________			
73	Jowo toka si ipa ti **itoju** arun jejere omu le ni lori awon ipinle wonyi laarin ajosepo loko-laya? a.Gbigbo ara eni ye ati gbigba enikeji bi o se wa b. Gbigbo bukata ninu ile d. Ajosoye oro e. Yiyanju dukuu (Ija) E. Eto isuna f. Sise gbogbo nkan papo (ounje jije, sisun, wiwe, aso wiso			

	g. Sise ere ife gb. Omo bibi h. Omo tito i. Ebi j. Ore k. Esin sise l. Omiran (salaye)_______			

74. Ni iwoye ti yin, kini amoran ti e le fun awon wonyi lati gbe ni alaafia pelu wahala arun jejere omu yi?

a. Obinrin ti o ni arun naa____
b. Oko obinrin naa____
d. Awon molebi won____
e. Awon ara adugbo____

75. Ni imo tiyin, kini imoran ti e yin le fun obinrin ti o ni arun jejere omu lati le bojuto ibasepo larin oun ati oko re? ____

APPENDIX XIII

CALCULATION FOR POPULATION PROJECTION

$P_I = P_0(e^{rt})$

P_I = Present population

P_0 = Previous or initial Population

t = time i.e. no of year

e = exponential

r = rate of growth

Ibadan North:

2016 $= 415{,}822\ (e^{0.0129 \times 4})$ $r = 1.29\% = 0.0129$

$= 415{,}822\ (1.0529)$ $t = 4$

$= 437{,}819$ $P_{0(2012)} = 415{,}822$

Ibadan North East:

2016 $= 386{,}560\ (e^{0.0014 \times 4})$ $r = 0.14\% = 0.0014$

$= 386{,}560\ (1.0056)$ $t = 4$

$= 388{,}725$ $P_{0(2012)} = 386{,}560$

Ibadan North West:

2016 $= 193{,}242\ (e^{0.0028 \times 4})$ $r = 0.28\% = 0.0028$

$= 193{,}242\ (1.0113)$ $t = 4$

$= 195{,}426$ $P_{0(2012)} = 193{,}242$

Ibadan South East:

2016 $= 334{,}291\ (e^{0.0116\ \mathrm{x}\ 4})$ $r = 1.16\% = 0.0116$
$= 334{,}291\ (1.0475)$ $t = 4$
$= 350{,}170$ $P_{0(2012)} = 334{,}291$

Ibadan South West:

2016 $= 355{,}168\ (e^{0.00015\ \mathrm{x}\ 4})$ $r = 0.15\% = 0.0015$
$= 335{,}168\ (1.0060)$ $t = 4$
$= 357{,}299$ $P_{0(2012)} = 355{,}168$

APPENDIX XIV

POLITICAL WARDS IN THE FIVE URBAN LOCAL GOVERNMENT IN THE IBADAN METROPOLIS

LGA: IBADAN NORTH CODE: 06

S/N	NAME OF REGISTRATION AREA (RA)	CODE	NAME OF REG. AREA COLLATION CENTRE (RACC)	NAME OF REG. AREA COLLATION CENTRE (RACC)
1	WARD 1 N2	001	ISLAMIC MISSION ODO OYE	ISLAMIC MISSION ODO OYE
2	WARD 11 N3	002	ST. STEPHEN PRY. SCHOOL INALENDE	ST. STEPHEN PRY. SCHOOL INALENDE
3	WARD 1 II N4	003	SALVATION ARMY SCH. YEMETU	SALVATION ARMY SCH. YEMETU
4	WARD IV N5A	004	METHODIST PRY. SCH. NS (NTA)	METHODIST PRY. SCH. NS (NTA)
5	WARD V N5B	005	IKOLABA GRAMMAR SCH.	IKOLABA GRAMMAR SCH.
6	WARD VI N6A PART 1	006	ST. GABRIEL GRAMMAR SCH. MOKOLA	ST. GABRIEL GRAMMAR SCH. MOKOLA
7	WARD VII N6A PART II	007	ST. LOUIS GARMMAR SCH. MOKOLA	ST. LOUIS GARMMAR SCH. MOKOLA
8	WARD VIII N6A PART III	008	UNITED IJOKODO (NEW WAEC OFF.)	UNITED IJOKODO (NEW WAEC OFF.)
9	WARD IX N6B PART I	009	C & S NEW EDEN SCH.	C & S NEW EDEN SCH.
10	WARD X N6A PART II	010	OBA AKINBIYI HIGH SCH. II MOKOLA	OBA AKINBIYI HIGH SCH. II MOKOLA
11	WARD XI NWA	011	EMMANUEL PRY. SCH. U.I.	EMMANUEL PRY. SCH. U.I.
12	WARD XII NW B	012	METHODIST PRY. SCHOOL I, BODIJA	METHODIST PRY. SCHOOL I, BODIJA
	TOTAL			

LGA: IBADAN NORTH EAST CODE: 07

S/N	NAME OF REGISTRATION AREA (RA)	CODE	NAME OF REG. AREA COLLATION CENTRE (RACC)	NAME OF REG. AREA COLLATION CENTRE (RACC)
1	WARD E1	001	AKINTAYO’S COMPOUND	AKINTAYO’S COMPOUND
2	WARD E2	002	OGBORIFON PALACE	OGBORIFON PALACE
3	WARD E3	003	ADEYTEMO’S COMPOUND	ADEYTEMO’S COMPOUND
4	WARD E4	004	OLUBADAN HIGH SCH.	OLUBADAN HIGH SCH.
5	WARD E5A	005	ADEROGBA COMPOUND	ADEROGBA COMPOUND
6	WARD E5B	006	I.M.G. PRY. SCHOOL	I.M.G. PRY. SCHOOL
7	WARD E6	007	HLA PRIMARY SCHOOL	HLA PRIMARY SCHOOL
8	WARD E7I	008	ST. CYPRIAN PRY. SCH.	ST. CYPRIAN PRY. SCH.
9	WARD E7II	009	LAGELU GRAMMAR SCH.	LAGELU GRAMMAR SCH.
10	WARD E8	010	C.A.C. PRY SCH.	C.A.C. PRY SCH.
11	WARD E91	011	IWO ROAD POLICE STATION	IWO ROAD POLICE STATION
12	WARD E9II	012	LAYOLA COLLEGE	LOYOLA COLLEGE
	TOTAL			

LGA: IBADAN NORTH WEST CODE: 08

S/N	NAME OF REGISTRATION AREA (RA)	CODE	NAME OF REG. AREA COLLATION CENTRE (RACC)	NAME OF REG. AREA COLLATION CENTRE (RACC)
1	WARD 1 NI (PART 1)	001	MATERNITY CENTRE, AYEYE	MATERNITY CENTRE, AYEYE
2	WARD 2 NI (PART2)	002	BISHOP COURT, OKE-ARE	BISHOP COURT, OKE-ARE
3	WARD 3 NW1	003	AGBAJE PRY. SCH. AYEYE	AGBAJE PRY. SCH. AYEYE
4	WARD 4 NI (PART 2)	004	SACRED HEART SCH. IDIKAN	SACRED HEART SCH. IDIKAN
5	WARD 5 NW3 (PART 1)	005	BAPTIST PRY SCH. IDIKAN	BAPTIST PRY SCH. IDIKAN
6	WARD 6 NW3 (PART 1)	006	ST. PATRICK SCHOOL ABEBI	ST. PATRICK SCHOOL ABEBI
7	WARD 7 NW4	007	U.N.A. SCHOOL, EKOTEDO	U.N.A. SCHOOL, EKOTEDO
8	WARD 8 NW5	008	NWS PRY. SCH. INALENDE	NWS PRY. SCH. INALENDE
9	WARD 9 NW6	009	SAVIOUR APOSTOLIC PRY. SCH. EKOTEDO	SAVIOUR APOSTOLIC PRY. SCH. EKOTEDO
10	WARD 10 NW7	010	OBA ABASS ALESHINLOYE GRAM. SCH. ELEYELE	OBA ABASS ALESHINLOYE GRAM. SCH. ELEYELE
11	WARD 11 NW7	011	ANWAR-UL ISLAM PRY. ELEYELE	ANWAR-UL ISLAM PRY. ELEYELE
	TOTAL			

LGA: IBADAN NORTH WEST CODE: 09

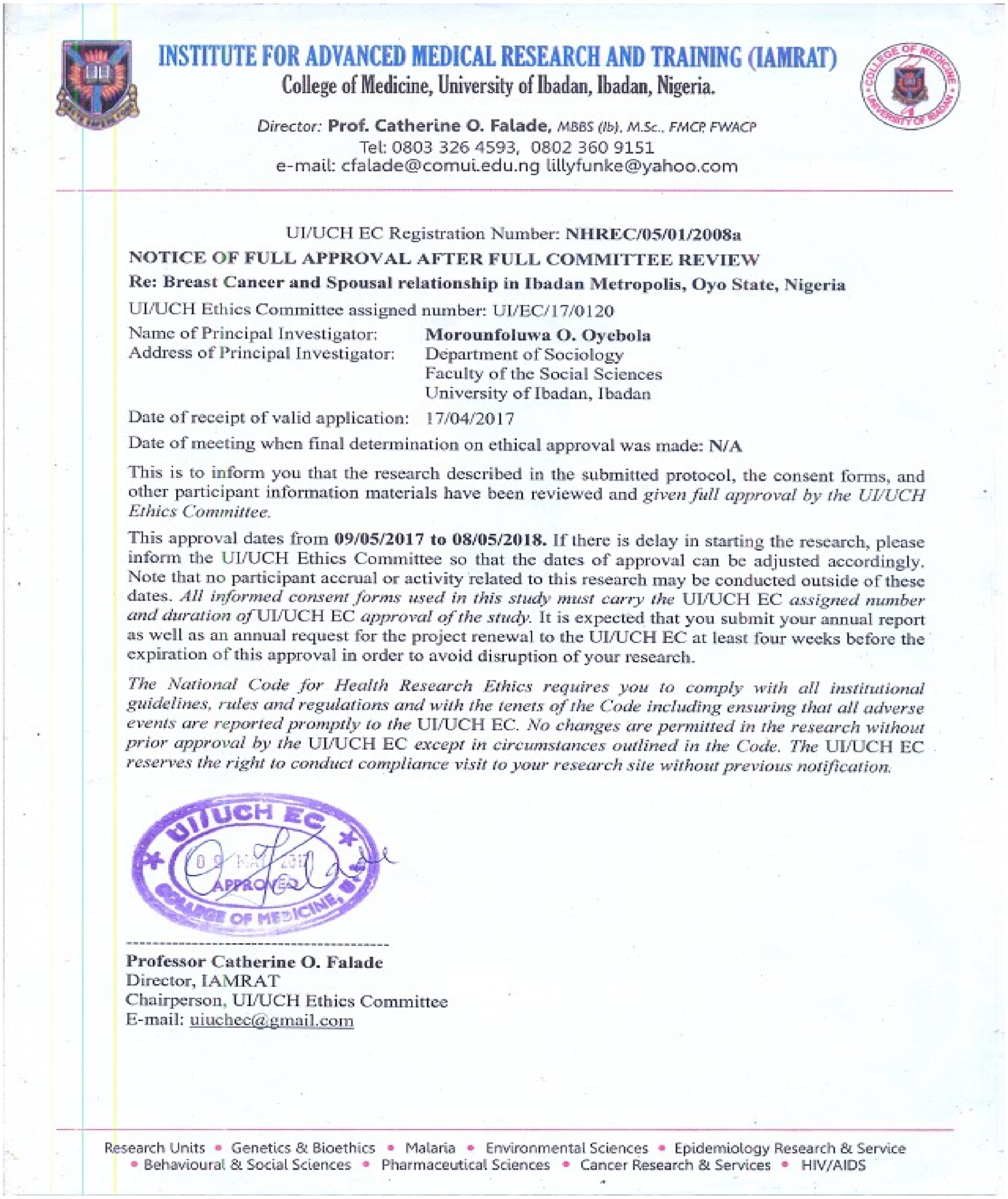
S/N	NAME OF REGISTRATION AREA (RA)	CODE	NAME OF REG. AREA COLLATION CENTRE (RACC)	NAME OF REG. AREA COLLATION CENTRE (RACC)
1	C1	001	MAPO CUSTOMARY COURT HALL	MAPO CUSTOMARY COURT HALL
2	S1	002	OPE AGBE PALACE PREMISES	OPE AGBE PALACE PREMISES
3	S2A	003	ORANYAN MATERNITY CENTRE	ORANYAN MATERNITY CENTRE
4	SB2	004	MATERNITY CENTRE PREMISES, AGBONGBON	MATERNITY CENTRE PREMISES, AGBONGBON
5	S3	005	MATERNITY CENTRE PREMISES, AGBONGBON	MATERNITY CENTRE PREMISES, AGBONGBON
6	S4A	006	PUBLIC DAY SCH. ELEKURO	PUBLIC DAY SCH. ELEKURO
7	S4B	007	C.A.C GARMMAR SCH. APERIN ONIYERE	C.A.C GARMMAR SCH. APERIN ONIYERE
8	S5	008	ADELAGUN MEMORIAL GARMMAR SCH. ODINJO	ADELAGUN MEMORIAL GARMMAR SCH. ODINJO
9	S6A	009	I.,M.G SCHOOL ELETA	I.,M.G SCHOOL ELETA
10	S6B	010	ST. JOHN’S SCH. ELETA, ACADEMY	ST. JOHN’S SCH. ELETA, ACADEMY
11	S7A	011	ST. LUCK’S PRY. SCH. MOLETE	ST. LUCK’S PRY. SCH. MOLETE
12	S7B	012	ST. ANNE’S SCH. MOLETE	ST. ANNE’S SCH. MOLETE
	TOTAL			

LGA: IBADAN NORTH WEST CODE: 010

S/N	NAME OF	CODE	NAME OF REG. AREA	NAME OF REG. AREA

	REGISTRATION AREA (RA)		**COLLATION CENTRE (RACC)**	**COLLATION CENTRE (RACC)**
1	C2	001	IN FRONT OF AKERE'S COMP., OJA OBA	IN FRONT OF AKERE'S COMP., OJA OBA
2	SW1	002	PROGRESSIVE DAY PRY. SCH. ALADORIN	PROGRESSIVE DAY PRY. SCH. ALADORIN
3	SW2	003	OPEN SPACE AT SOBALOJU COMP. ISALE IJEBU	OPEN SPACE AT SOBALOJU COMP. ISALE IJEBU
4	SW3	004	OPEN SPACE AT KAJOLA	OPEN SPACE AT KAJOLA
5	SW4	005	S.D.A. SCH. FOKO	S.D.A. SCH. FOKO
6	SW5	006	ABIOLA JACOB'S PRY. SCH. FOKO	ABIOLA JACOB'S PRY. SCH. FOKO
7	SW6	007	METHODISH PRY. SCH. AGENI	METHODISH PRY. SCH. AGENI
8	SW7	008	IBADAN BOYS HIGH SCH. OKE BOLA	IBADAN BOYS HIGH SCH. OKE BOLA
9	SW8 (1)	009	A.U.D. PRY. SCH. OSOSAMI	A.U.D. PRY. SCH. OSOSAMI
10	SW8(II)	010	OKE ADO HIGH SCH. OKE ADO	OKE ADO HIGH SCH. OKE ADO
11	SW9(1)	011	PEOPLE'S PRY SCH. ADEOYO RD. OFF RING RD.	PEOPLE'S PRY SCH. ADEOYO RD. OFF RING RD.
12	SW9(II)	012		
	TOTAL			

APPENDIX XV



INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)
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Director: **Prof. Catherine O. Falade,** *MBBS (Ib), M.Sc., FMCP, FWACP*
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e-mail: cfalade@comui.edu.ng lillyfunke@yahoo.com

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Breast Cancer and Spousal relationship in Ibadan Metropolis, Oyo State, Nigeria

UI/UCH Ethics Committee assigned number: UI/EC/17/0120

Name of Principal Investigator:	**Morounfoluwa O. Oyebola**
Address of Principal Investigator:	Department of Sociology Faculty of the Social Sciences University of Ibadan, Ibadan

Date of receipt of valid application: 17/04/2017

Date of meeting when final determination on ethical approval was made: **N/A**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from **09/05/2017 to 08/05/2018.** If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH EC *assigned number and duration of* UI/UCH EC *approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC at least four weeks before the expiration of this approval in order to avoid disruption of your research.

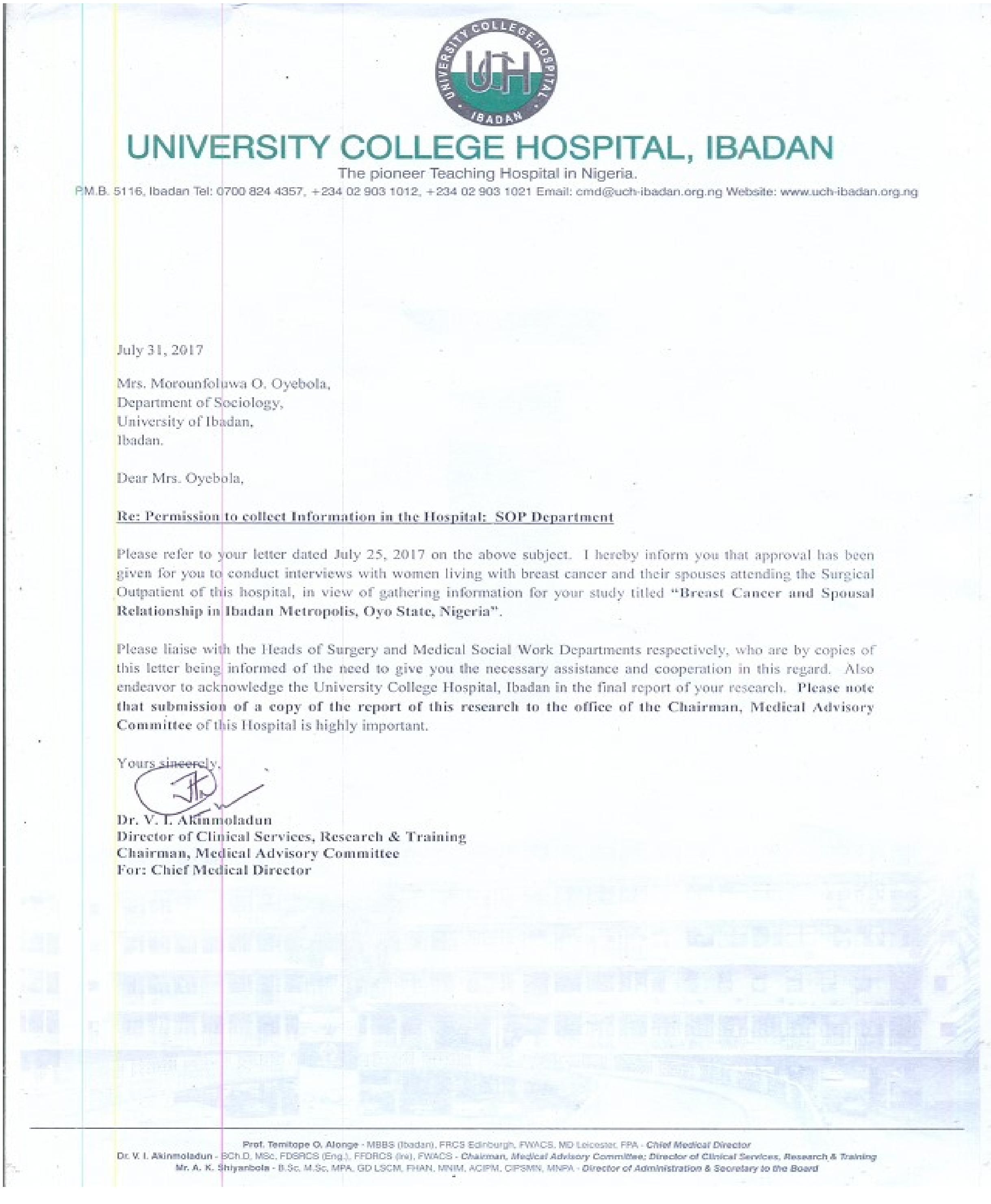
The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. *No changes are permitted in the research without prior approval by the* UI/UCH EC *except in circumstances outlined in the Code. The* UI/UCH EC *reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC
09 MAY 2017
APPROVED

Professor Catherine O. Falade
Director, IAMRAT
Chairperson, UI/UCH Ethics Committee
E-mail: uiuchec@gmail.com

Research Units • Genetics & Bioethics • Malaria • Environmental Sciences • Epidemiology Research & Service • Behavioural & Social Sciences • Pharmaceutical Sciences • Cancer Research & Services • HIV/AIDS

APPENDIX XVI



UNIVERSITY COLLEGE HOSPITAL, IBADAN
The pioneer Teaching Hospital in Nigeria.
P.M.B. 5116, Ibadan Tel: 0700 824 4357, +234 02 903 1012, +234 02 903 1021 Email: cmd@uch-ibadan.org.ng Website: www.uch-ibadan.org.ng

July 31, 2017

Mrs. Morounfoluwa O. Oyebola,
Department of Sociology,
University of Ibadan,
Ibadan.

Dear Mrs. Oyebola,

Re: Permission to collect Information in the Hospital; SOP Department

Please refer to your letter dated July 25, 2017 on the above subject. I hereby inform you that approval has been given for you to conduct interviews with women living with breast cancer and their spouses attending the Surgical Outpatient of this hospital, in view of gathering information for your study titled **"Breast Cancer and Spousal Relationship in Ibadan Metropolis, Oyo State, Nigeria"**.

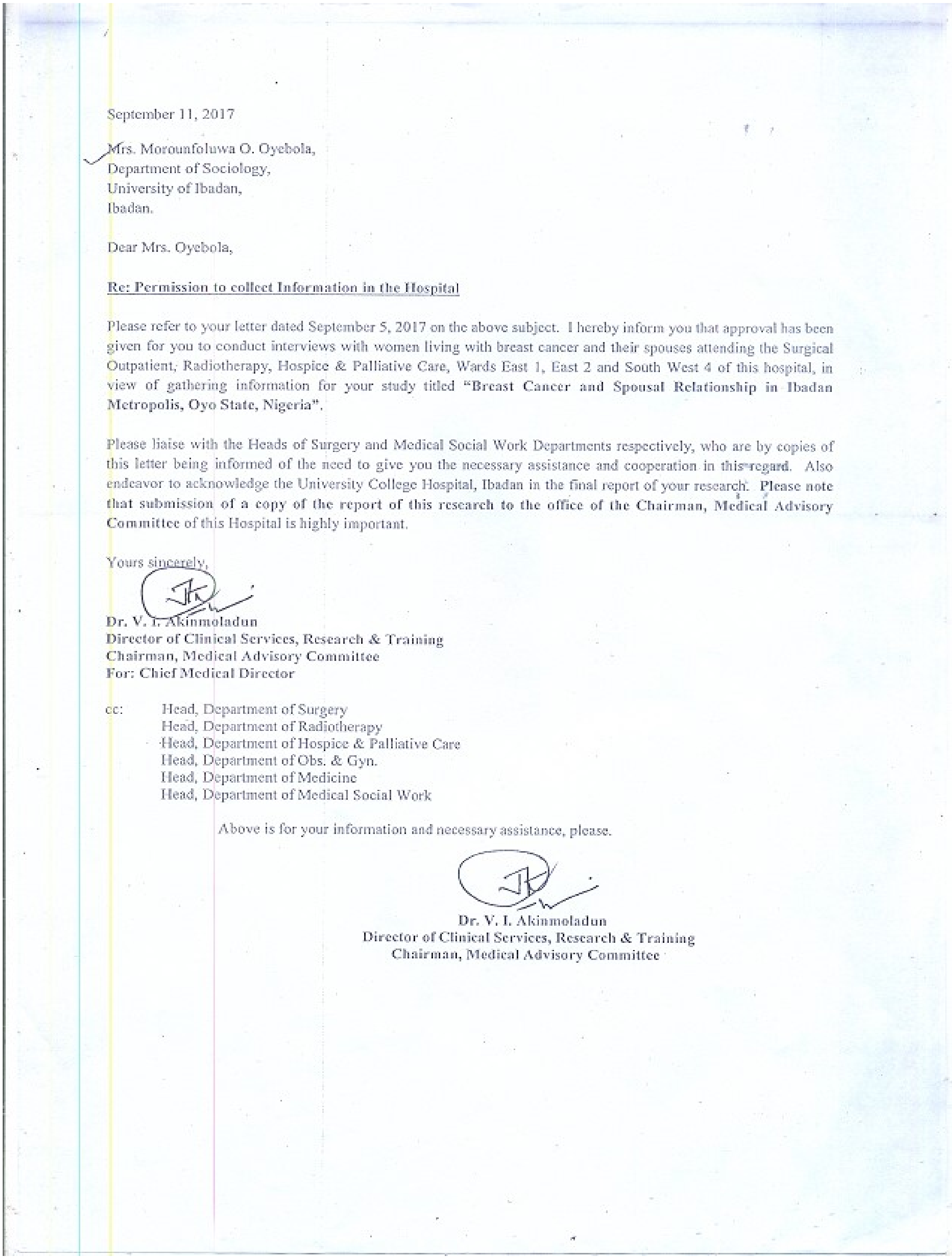
Please liaise with the Heads of Surgery and Medical Social Work Departments respectively, who are by copies of this letter being informed of the need to give you the necessary assistance and cooperation in this regard. Also endeavor to acknowledge the University College Hospital, Ibadan in the final report of your research. **Please note that submission of a copy of the report of this research to the office of the Chairman, Medical Advisory Committee** of this Hospital is highly important.

Yours sincerely,

Dr. V. I. Akinmoladun
Director of Clinical Services, Research & Training
Chairman, Medical Advisory Committee
For: Chief Medical Director

Prof. Temitope O. Alonge - MBBS (Ibadan), FRCS Edinburgh, FWACS, MD Leicester, FPA - ***Chief Medical Director***
Dr. V. I. Akinmoladun - BCh.D, MSc, FDSRCS (Eng.), FFDRCS (Ire), FWACS - ***Chairman, Medical Advisory Committee; Director of Clinical Services, Research & Training***
Mr. A. K. Shiyanbola - B.Sc, M.Sc, MPA, GD LSCM, FHAN, MNIM, ACIPM, CIPSMN, MNPA - ***Director of Administration & Secretary to the Board***

APPENDIX XVII



September 11, 2017

Mrs. Morounfoluwa O. Oyebola,
Department of Sociology,
University of Ibadan,
Ibadan.

Dear Mrs. Oyebola,

Re: Permission to collect Information in the Hospital

Please refer to your letter dated September 5, 2017 on the above subject. I hereby inform you that approval has been given for you to conduct interviews with women living with breast cancer and their spouses attending the Surgical Outpatient, Radiotherapy, Hospice & Palliative Care, Wards East 1, East 2 and South West 4 of this hospital, in view of gathering information for your study titled **"Breast Cancer and Spousal Relationship in Ibadan Metropolis, Oyo State, Nigeria"**.

Please liaise with the Heads of Surgery and Medical Social Work Departments respectively, who are by copies of this letter being informed of the need to give you the necessary assistance and cooperation in this regard. Also endeavor to acknowledge the University College Hospital, Ibadan in the final report of your research. **Please note that submission of a copy of the report of this research to the office of the Chairman, Medical Advisory Committee** of this Hospital is highly important.

Yours sincerely,

Dr. V. I. Akinmoladun
Director of Clinical Services, Research & Training
Chairman, Medical Advisory Committee
For: Chief Medical Director

cc: Head, Department of Surgery
Head, Department of Radiotherapy
Head, Department of Hospice & Palliative Care
Head, Department of Obs. & Gyn.
Head, Department of Medicine
Head, Department of Medical Social Work

Above is for your information and necessary assistance, please.

Dr. V. I. Akinmoladun
Director of Clinical Services, Research & Training
Chairman, Medical Advisory Committee