KNOWLEDGE, ATTITUDE AND BEHAVIOURAL DISPOSITION OF NIGERIAN WOMEN TOWARDS BREAST CANCER

ALLO, T. A.[1]*, Edewor, P. A.[2], & Imhonopi, D.[3]
[1]Ms., Covenant University, Nigeria, tolu.allo@covenantuniversity.edu.ng
[2]Prof., Covenant University, Nigeria, patrick.edewor@covenantuniversity.edu.ng
[3]Dr. Covenant University, Nigeria, david.imhonopi@covenantuniversity.edu.ng
*Corresponding author

Abstract

Breast cancer is one of the most important diseases for women to know about, unfortunately, inadequate and incomplete knowledge coupled with wrong attitude towards the disease have been found to be one of the reasons why it is still highly prevalent in most low and middle income countries (LMCs) today. Knowledge is central to the curtailment of breast cancer as knowledge empowers and liberates from ignorance. Having the right attitude is also important for sound judgment and prompt action. It has been observed that women of the African descent usually tend to underestimate their vulnerability to breast cancer as they employ a "breast cancer related thought avoidance" mechanism. Not much attention has been paid to disseminating knowledge and the promotion of attitudinal change about breast cancer with a view of preventing it from spreading and consequently saving the lives of women mostly affected. This study, conducted in 5 South-western Nigerian communities set out to examine the level of knowledge, attitude and behavioural disposition of women towards breast cancer. This is aimed at investigating the level of breast cancer knowledge among Nigerian women, and to examine the way they experience and respond to the incidence of the disease. Findings among others revealed that knowledge and awareness of breast cancer are not enough to make women consider it as a threat, and that, what rather influences the attitude of women towards breast cancer is having a familial breast cancer history, and, their personal belief which is strongly influenced by spirituality that often make them live in denial of their risk thereby making them evade and delay the adoption of a suggested preventive action.

Keywords: Breast cancer, Women, Knowledge, Attitudes, behavioural disposition

1 INTRODUCTION

Breast cancer is one of the most important diseases for women to know about. Unfortunately, inadequate and incomplete knowledge coupled with wrong attitude towards the disease have been found to be one of the reasons why it is still highly prevalent in most low and middle income countries (LMCs) today.

Breast cancer occur as a result of cells under the influence of estrogen multiplying and infringing on other

tissue; eventually spreading to other regions of the body (Boaz 2002: 89). For the purpose of this paper, knowledge has been conceptualized to mean familiarity, awareness or understanding of something, while attitude has been operationalized to mean a settled way of thinking or feeling about something.

Knowledge is indeed central to the curtailment of breast cancer as knowledge empowers and liberates from ignorance. Having the right attitude is also important for sound judgment and prompt action. It has been observed that women of the African descent usually tend to underestimate their vulnerability to breast cancer as they employ a "breast cancer related thought avoidance" mechanism (Hughes, Lerman & Lustbader, 1996), with the believe that when they don't think about breast cancer, chances are that it will not affect them. This kind of attitude can jeopardize the health of women. This brings this paper to its theoretical base – the "Fear Appeal theory" of Maddux and Roger. The fear appeal theory states that the arousal of fear in individuals through the threat of an impending danger helps in diverting their behaviour (Maddux & Rogers, 1983). The theory presents a risk and also presents vulnerability to the risk and then describes a suggested form of protective action.

This theory is suitable for this study because, it is believed that when women are open to discourses about breast cancer and when they see breast cancer as a threat to their health, they will be prompted to take proactive actions that will reduce their vulnerability like engaging in Breast Self-Examination (BSE) and going for mammography. This will translate into the right step in the attitudinal modification drive which is believed will add up to the overall fight against breast cancer morbidity and mortality in Nigeria.

This study attempts to examine the knowledge, attitude and behavioural disposition of women towards breast cancer, and also seeks to sensitize the general public especially women about the menace of the disease so as to mitigate against its spread. Not much attention has been paid to disseminating knowledge and the promotion of attitudinal change about breast cancer with a view of preventing it from spreading and consequently saving the lives of women mostly affected. The knowledge gap from existing literature and research findings is what this study intends to fill. This study, conducted in 5 South-western Nigerian communities set out to examine the level of knowledge, attitude and behavioural disposition of women towards breast cancer.

1.1 Materials and Methods

1.1.1 Study Population

The area under investigation with regard to this study is Ogun State. Ogun State, also known as the "Gateway State" is located in the South-western region and is one of the 36 states in the Federal Republic of Nigeria. Often ranked as the 24th largest state out of the 36 states in Nigeria in terms of land mass, Ogun State consist of 3 senatorial districts, 9 Federal constituencies, 27 state constituencies and 20 Local Government Areas (Oke, 2012)..

The population of interest constituted pre-menopausal and post-menopausal women selected from over 880,970 regular households distributed unevenly across the 20 LGAs in Ogun state (National Population Commission, 2006).The sample was drawn from 5 Wards located in 5 randomly selected LGAs out of the 20 identified LGAs in Ogun State using the multi-stage sampling technique. The selected LGAs include: Ado-Odo Ota, Abeokuta South, Sagamu, Obafemi-Owode and Ijebu Ode, while the wards visited in these LGAs include: Sango Ota, Ake, Ogijo, Mowe and Irewon. Opinions were sampled from women residing in rural, urban and semi-urban areas in these 5 wards.

Sampling was done using a multistage stratified sampling technique, first into LGAs, and then into streets within each ward. The number sampled from each LGAs was proportional to the female population size of each LGAs.

1.1.2 Instrument

A 58-item, study specific, self-administered questionnaire was used to elicit quantitative data from the population of interest, and, in a situation where respondents could not read or write, the interviewer-administered method was adopted. A pre-test was conducted on the research instrument before its final adoption. A total of 10 in-depth-interviews was also conducted to complement the survey method. The questionnaire administration was done by a team of undergraduate students who were trained before the commencement of this study and could communicate fluently and effectively in both English and Yoruba languages depending on the preference of respondents.

The questionnaire gathered information on socio-demographic characteristics of respondents together with information on their general knowledge and awareness of breast cancer, their knowledge of its risk factors,

its common signs and symptoms, how it can be detected, if they think they are vulnerable to the disease, their general attitude and disposition to breast cancer and, their breast care practice routine.

1.1.3 Key variables

The dependent variable for this study is "attitudes about breast cancer", while the independent variable is "knowledge". The key variables in use are: ever heard of breast cancer (BC), ever heard of Breast Self-Examination (BSE), knowledge of BSE performance, view BC as threat, worry about BC and thoughts of being at risk of BC.

1.1.4 Analysis

Quantitative data analysis was done using the Statistical Package for the Social Sciences (SPSS) 16.0. Univariate analysis was conducted with the use of frequency tables to assess and describe the socio-demographic characteristics of respondents and other variables of interest while the Binary Logistic Regression (BLR) was used to estimate the log of likelihood $log\left(\frac{p}{1-P}\right)$ on the independent variable.Information from the in-depth interview sessions was transcribed, edited and organized. Relevant striking statements were noted and used to support results from the quantitative data analysis.

1.1.5 Ethics

The study was approved by the Covenant University Health Research Ethics Committee, and the informed consent of participants for both the survey and in-depth interviews were duly obtained. Participants were debriefed about the aim and objectives of the study before the data collection process commenced. Participants were also assured of privacy, anonymity and confidentiality of information supplied

2 RESULT

2.2.1 Socio-demographic Profile of Respondents

A total of 1,100 questionnaire was administered on the study population with 992 adjudged suitable for analysis. The attrition rate was 9.8%.

A total sum of 992 women were thus surveyed across the 5 selected LGAs and wards: 306 from rural areas, 547 from urban and 139 from semi-urban areas. Wards that are seemingly urban were visited in Ado-odo Ota and Abeokuta South, those that have some rural characteristics were visited in Sagamu and Ijebu Ode, and those having semi-urban features were targeted in Obafemi-Owode LGA. The selection was done based on size, population density, social distance and economic activities in these areas.

A larger percentage of the sampled population are of the Yoruba Ethnic group, their mean age are: 30.8 for rural, 31.8 for urban and 27.89 for semi-urban. Most of the respondents had some form of education with only 8.6% having no formal education at all. They are mostly single and married women and majority belonged to the Christian faith (rural: 69.0%, urban: 67.8%, semi-urban: 74.8%) as listed in table 1 below.

Table 1. Percentage Distribution of Respondents by Socio-Demographic Characteristics

	Rural		**Urban**		**Semi-Urban**	
Summary Statistics	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Sample (N)	306		547		139	
Mean Age	30.83		31.88		27.89	
Mean no. of Children ever born	2.69		2.89		2.19	
LGA						
Ado-Odo Ota LGA	-	-	363	66.4	-	-
Abeokuta South LGA	-	-	184	33.6	-	-
Sagamu LGA	176	57.5	-	-	-	
Ijebu-Ode LGA	130	42.5	-	-	-	
ObafemiOwode LGA	-	-	-	-	139	
Ethnicity						
Yoruba	181	59.2	333	60.9	84	60.4
Igbo	51	16.7	104	19.0	27	19.4

Hausa	25	8.2	32	5.9	4	2.9
Others	49	16.0	78	14.3	24	17.3
Total	**306**	**100.0**	**547**	**100.0**	**139**	**100.0**
Age						
< 25 years	87	28.4	168	30.7	58	41.7
25-39 years	147	48.0	277	50.6	70	50.4
40 & above	72	23.5	102	18.6	11	7.9
Total	**306**	**100.0**	**547**	**100.0**	**139**	**100.0**
Marital Status						
Single	107	35.0	200	36.6	78	56.1
Married	160	52.3	259	47.3	52	37.4
Divorced	10	3.3	24	4.4	3	2.2
Widowed	17	5.6	31	5.7	5	3.6
Separated	12	3.9	33	6.0	1	.7
Total	**306**	**100.0**	**547**	**100.0**	**139**	**100.0**
Education						
No formal education	34	11.1	49	9.0	12	8.6
Primary education	92	30.1	132	24.1	21	15.1
Secondary education	94	30.7	185	33.8	66	47.5
Tertiary education	86	28.1	181	33.1	40	28.8
Total	**306**	**100.0**	**547**	**100.0**	**139**	**100.0**
Religion						
Christianity	211	69.0	371	67.8	104	74.8
Islam	82	26.8	136	24.9	31	22.3
Traditionalist	4	1.3	25	4.6	3	2.2
Others	9	2.9	15	2.7	1	.7
Total	**306**	**100.0**	**547**	**100.0**	**139**	**100.0**

Source: Field survey, 2016

2.2.2 Breast Cancer Knowledge and Awareness

Almost all the respondents in the study area have heard about breast cancer: rural = 90.55%, urban = 90.7%, semi-urban = 83.5%, with only a fraction admitting otherwise. An appreciable number have also heard of Breast Self-Examination (BSE): 70.6% in the rural area, 72.8% in urban, and 64.0% in semi-urban. However, when asked about how to carry out the BSE procedure, just about half of the total respondents answered in the affirmative: rural = 56.2%, urban = 57.6% and semi-urban = 40.3%. This result revealed that, although a higher proportion of the study population have heard about breast cancer and BSE, the knowledge about the performance of the BSE procedure is still low. (See Table 2).

Table 2. Percentage Distribution of Respondent's by Breast Cancer Knowledge and Awareness

	Rural		**Urban**		**Semi-Urban**	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**
Ever Heard of Breast Cancer						
Yes	277	90.5	496	90.7	116	83.5
No	29	9.5	51	9.3	23	16.5
Total	306	100.0	547	100.0	139	100.0
Ever Heard of BSE						
Yes	216	70.6	398	72.8	89	64.0
No	90	29.4	149	27.2	50	36.0
Total	306	100.0	547	100.0	139	100.0
Know How to Perform BSE						

Yes	172	56.2	315	57.6	56	40.3
No	134	43.8	232	42.4	83	59.7
Total	306	100.0	547	100.0	139	100.0

Source: Field survey, 2016

Corroborating this report is the response of one of the IDI participant:

> "I have heard of breast cancer, my mother had it but we lost her, going to 7 years now, but I don't know how to do a Breast Self-Examination o" (Close acquaintance of a BC patient from Abeokuta South)

2.2.3 Attitude of Respondents towards Breast Cancer

An assessment of respondent's general attitude towards breast cancer showed that, only 37.3%of the total respondents sampled in the rural area viewed breast cancer as threat, 37.3% also viewed it as threat in the urban area, while 25.2% saw breast cancer as threat in the semi-urban area. For those respondent that agreed to have ever worried about getting diagnosed with breast cancer, 16.3% are from rural areas, 16.1% are from urban, and 11.5% are from the semi-urban area. When asked if they think they could be at risk of being diagnosed with breast cancer, respondents that answered in the affirmative from the rural area are 17.6%, 15.2% are from the urban area, while 12.2% are from the semi-urban area. Going by all of these responses, it is clear that majority of the respondents do not perceive themselves as being vulnerable to breast cancer and do not see it as a threat to their health. This points to a negative and poor attitude towards the disease. These findings may have a negative implication for the curtailment of the disease as feelings of non-vulnerability may reduce the propensity to engage in preventive and protective action against the disease as espoused by the 'Fear Appeal theory' of Maddux and Rogers, (1983).

Table 3. Percentage Distribution of Respondents by Attitude towards Breast Cancer

	Rural		**Urban**		**Semi-Urban**	
	Freq.	**%**	**Freq.**	**%**	**Freq.**	**%**
View BC As Threat						
Yes	114	37.3	204	37.3	35	25.2
No	124	40.5	223	40.8	79	56.8
Total	238	100.0	427	100.0	114	100.0
Ever Worried About BC						
Yes	50	16.3	88	16.1	16	11.5
No	227	74.2	417	76.2	123	88.5
Total	327	90.5	505	92.3	139	100.0
At risk of getting Breast Cancer						
Yes	54	17.6	83	15.2	17	12.2
No	227	74.2	415	75.9	122	87.8
Total	281	100.0	498	100.0	139	100.0

Source: Field survey, 2016

Below is an excerpt from one of the IDI sessions to support this result:

> "there is negligence on the part of women because they often attach spiritual attack to the devt of breast cancer.... some will tell you that how will they develop breast cancer when it is not in their family. They will say nobody has ever developed breast cancer in their family so they cannot develop it. Even the educated ones do not really take it serious" (Matron, State Hospital Ota, Ijebu Ode/ Female surgical ward)

2.2.4 Respondent's Knowledge and Attitude towards Breast Cancer Using Binary Logistic Regression (BLR)

Two models are fused together in this table using the Binary Logistic Regression. The first model (Model 1) examined/tested for attitude about breast cancer against basic elements of knowledge.

The dependent variable is attitude about breast cancer taken as "perception of threat" and measured as a "Yes" or "No" binary format.

The independent variable represent basic elements of "knowledge" and they include: "ever heard of BC", "Know if BC is Common", "Ever heard of BSE", "ever experienced symptoms" and "know how to perform BSE".

The 2nd (Model 2) tested the same but controlled for selected demographic characteristics. One single table will be used for this presentation. Invariably, this logistic regression table will contain two models: Model 1 and Model 2.

The model estimated the log of likelihood $log\left(\frac{p}{1-P}\right)$ on the independent variable.

$$log\left(\frac{p}{1-P}\right) = \alpha + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 \ldots X_n\beta_n$$

β = Coefficient. It is interpreted by the signs –ve or +ve, and it is equivalent to correlation definitions; SE = Standard Error; Wald = interpreted by its magnitude. The bigger the 'Wald', the more likely the variable is significant; d.f = Degree of freedom, calculated as n – 1; Sig. = P value/significance level; Exp (β) = Odd ratio indicating the likelihood of the occurrence of the independent variable (<1 is less likely, >1 is more likely).

Model 1 and 2

Table 4. Binary Logistic Regression Illustrating the Relationship between Respondent's Perception of Threat of Breast Cancer and their Level of Knowledge

	Model 1			Model 2		
Selected Variables	**B**	**Sig.**	**Exp(B)**	**B**	**Sig.**	**Exp(B)**
Ever Heard of BC						
No	RC					
Yes	-.810	.002	.445	-.703	.009	.495
Breast Cancer is Common						
No	RC					
Yes	-.484	.008	.616	-.457	.015	.633
Ever Heard of BSE						
No	RC					
Yes	.022	.890	1.022	.056	.736	1.057
Ever Experienced BC Symptoms						
No	RC					
Yes	-.386	.210	.680	-.293	.360	.746
Not Sure	-.783	.146	.457	-.877	.116	.416
Know How to Perform BSE						
No	RC					
Yes	-.322	.026	.725	-.236	.114	.789
Locality						
Urban	-	-	-	RC		
Semi-urban	-	-	-	-.423	.064	.655

Rural	-	-	-	-.041	.795	.960
Religion						
Christianity	-	-	-	RC		
Islam	-	-	-	-.023	.891	.023
Traditionalist	-	-	-	-.666	.181	.514
Other	-	-	-	-.438	.373	.645
Marital Status						
Single	-	-	-	RC		
Married	-	-	-	.070	.764	1.073
Divorced	-	-	-	-.058	.897	.944
Widowed	-	-	-	-.068	.863	.935
Separated	-	-	-	-.617	.159	.540
Education						
No formal Education	-	-	-	RC		
Primary	-	-	-	.454	.095	1.575
Secondary	-	-	-	.272	.307	1.313
Tertiary	-	-	-	.228	.393	1.256
Age						
<25years	-	-	-	RC		
25-39 years	-	-	-	-.122	.579	.886
40 & above	-	-	-	.002	.995	1.002
Occupation						
Unemployed	-	-	-	RC		
Farming	-	-	-	-.745	.064	.105
Trading	-	-	-	-.297	.335	.743
Skilled	-	-	-	-.065	.840	.938
Clerical and allied	-	-	-	-.231	.449	.794
Professional	-	-	-	.436	.231	1.547
Constant	.111	.714	1.117	-.138	.776	.871
Model Summary	Overall Percentage = 63.6 Cox & Snell R Square = 0.031 Nagelkerke R Square = 0.043			Overall Percentage = 66.1 Cox & Snell R Square = 0.065 Nagelkerke R Square = 0.089		

The Binary Logistics Regression (BLR) analysis computed basic elements of breast cancer knowledge namely: “ever heard of breast cancer’, “know if breast cancer is common”, “ever heard of BSE”, “ever experienced symptoms” and “know how to perform BSE” against “perception of threat” while controlling for selected demographic characteristics.

Results showed that, women who have heard of breast cancer, who saw it as common, who have ever experienced symptoms and who know how to perform a BSE would be less likely perceive it as threat. The strength of relationship is also weak even after controlling for socio-demographic characteristics like locality, religion, marital status, education, age and occupation. The result is thus indicative of the fact that, knowledge is a weak variable in the face of threat/vulnerability perception. In other words, to know about breast cancer in terms of having heard of breast cancer and BSE, knowing how to perform BSE and experiencing breast cancer symptoms are not just enough to instigate a feeling of vulnerability or “at-riskness” to breast cancer.

3 DISCUSSIONS

Some scholars have argued that, there is limited information about what actually determines perceived risk,

especially as it relates to most types of illness behaviour, and that, a person's perception of the risk of developing a disease is believed to be an important determinant of their health related behavior (Skinner et al, 1998; Vernon et al, 1993). Johnson (2006) stressed that women's perception of breast cancer vulnerability is often defined by their life experiences which makes it difficult to generalize on how they feel about the disease and what they perceive their risk to be. The processes through which women develop a perception of risk have been viewed as complex and multifaceted (Hopwood, 2000).

In a study to identify factors associated with perceived risk of breast cancer among women, Vernon et al (1993) noted that, age is inversely related with perceived risk, this is somewhat consistent with the results from this study as it was found that, a -ve relationship existed between women aged 25-39 and threat perception (β = - 0.122), while a +ve association was detected between women aged 40 and above and threat perception (β = 0.002), implying that, women aged 25-39 will be less likely to perceive breast cancer as threat compared to those <25years, and that, those aged 40 and above will be 1.002 more likely to perceive it as threat compared to those <25years. No statistical significance was however observed, p-value = 0.58 and 0.995. Vogel et al also reported a strong positive association between a family history of breast cancer and risk perception. This goes on to show that, women with a familial history of breast cancer or, that have a close acquaintance that have experienced the disease will be more informed about the reality and severity of breast cancer and will be more likely to perceive themselves as vulnerable.

In another study aimed at examining the ethnic differences in breast cancer risk perception in 112 African American and 224 white women ages 35 and older, having a familial history of breast cancer also stood out as a major determinant of vulnerability perception (Hughes, Lerman & Lustbader, 1996). The women in the study were matched for education, age, breast cancer risk factors, risk perception, breast cancer worries and screening practice and results showed that African American women were significantly less likely than white women to report heightened perceptions of personal risk after their relative was diagnosed with breast cancer, they also scored significantly higher than white women on a measure of avoidance of breast cancer-related thoughts and feelings. It was also reported that psychological variables were associated independently with breast cancer risk perception in multivariate models, taking precedence over demographic and risk factor predictors. It was thus concluded that ethnic differences in breast cancer risk perceptions and psychological distress may be attributable to the influence of cultural factors particular to people of African descent, such as the importance of interpersonal relationships and spirituality (Hughes, Lerman & Lustbader, 1996).

Looking within the African socio-cultural context in relation to the findings from this present study, it can be said that, there is a strong belief in not arrogating what you don't want to yourself, plus the view by many that you make positive confession which must be mixed with faith in your heart, and so, considering the result from this study, it may not be unexpected that awareness or the knowledge of breast cancer has little impact on the attitude of respondents. For instance, in the course of administering the questionnaire for this study, the researcher could sense some level of ambivalence among respondents. Many of them hesitantly agreed to fill the questionnaire while some outrightly refused. On the question on whether respondents perceive breast cancer as threat and whether they think they could be at risk of the disease, a number of respondents answered with an affirmative "No", while many said "God forbid".

4 CONCLUSIONS AND RECOMMENDATION

In conclusion, it can be deduced that knowledge and awareness of breast cancer is not enough to make women consider it as a threat, and that, what rather influences the attitude of women towards breast cancer is having a familial breast cancer history, and, their personal belief which is strongly influenced by spirituality that often make them live in denial of their risk thereby making them evade and delay the adoption of a suggested preventive action. Therefore, social and personal beliefs, traditional practices of a society, cultural myths and taboos are crucial when it comes to the way and manner in which women experience and respond to breast cancer. Breast cancer related issues are culturally sensitive issues for women and should be understood and addressed in a culturally sensitive manner.

Based on the findings from this study, the following are have been recommended for policy:

1. Going forward, breast cancer education and awareness creation efforts should be done in a culturally sensitive manner bearing in mind the socio-cultural background of women and their spiritual world view.
2. Women's life experiences and personal beliefs about breast cancer should be put in consideration when designing policies and programs so as to make these programs yield desired result which is behavioural modification.
3. Women should be encouraged to adopt a healthier and more active lifestyle. Attitudinal and lifestyle

modification (ALM) should be incorporated into subsequent breast cancer campaign programs

4. The present breast cancer education and awareness creation effort only address “early detection”, effort should rather be channeled towards prevention rather than detection.

REFERENCE LIST

Boaz, N. T. (2002).*Evolving health: the origins of illness and how the modern world is making us sick.* New York: Wiley.

Country Meters (2018). Retrieved from http://countrymeters.info/en/Nigeria

Hughes, C., Lerman, C., & Lustbader, E. (1996). Ethnic differences in risk perception among women at increased risk for breast cancer. *Breast Cancer Research and Treatment.* 40(1):25-35. Lombardi Cancer Center, Georgetown University Medical Center, Washington DC 20007, USA.

MacDonald, D. J., Sarna, L., Uman, G. C., Grant, M. & Weitzel, J. N. (2005). Health beliefs of women with and without breast cancer seeking genetic cancer risk assessment. *Cancer Nursing.*28 (5): 372-379.

Maddux, J. E., & Rogers, R. W. (1983). Protection motivation and self-efficacy: A revised theory of fear appeals and attitude change. *Journal of Experimental Social Psychology,* 19(5), 469-479. doi: http://dx.doi.org/10.1016/0022-1031(83)90023-9

National Population Commission (2006). *Population and housing census of the Federal Republic of Nigeria, priority table*. Volume iii. No. 1 Masaka Close off Olusegun Obasanjo Way Wuse Zone 7, Abuja, Nigeria.

Norman, P. and Brain, K. (2005). An application of an extended health belief model to the prediction of breast self-examination among women with a family history of breast cancer. *British Journal of Health Psychology.* 10: 1-16.

Oke, M. (2012). Nigeria: Ogun should have 36 State Constituencies. Daily Trust Abuja.