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Effective Use of Media Awareness Campaigns for Breast Cancer Care among Women: A Comparative Study

Okorie Nelson¹ & Abiodun Salawu²

Abstract

This study investigated the influence of media awareness campaigns on breast cancer care among women in South-West Nigeria. This study employed a mixed research method, which made use of survey and focus group discussion to achieve the objectives of the study. For the sample size, a total of 632 persons participated in the study, which was made up of 600 questionnaire respondents and 32 discussants for the focus group discussion. The multi-stage sampling and simple random sampling techniques were used to select the questionnaire respondents in Lagos, Oyo and Ekiti States. Also, three hypotheses were tested using cross tabulation and one-way ANOVA to determine the differences or variance in data that exist among states. This was further tested with Scheffe Post Hoc to determine where the difference(s) lie. The first hypothesis confirmed that there is a significant difference in the level of knowledge about breast cancer among women in Lagos, Oyo and Ekiti States (F ratio =3.026; $p < 0.05$). The second hypothesis showed there is no significant difference in the level of exposure of women in Lagos, Oyo and Ekiti States to media information on breast cancer care (F ratio =.044; $p > 0.05$). The third hypothesis indicated that there is a significant difference in the sources of awareness among women in Lagos, Oyo and Ekiti States (F ratio =16.523; $p < 0.05$). It was suggested that mass media messages be included as the main mechanism to improving breast cancer care among women.

Keywords: Awareness Campaigns, Breast Cancer Care, Knowledge, Information Sources, Media, Women, Nigeria

Introduction

Scholars agree that media awareness campaigns should be seen as the cornerstone for health communication interventions. This is because of the myriad of communication techniques and channels that could be used to increase awareness and knowledge of health problems and interventions (Kreps & Sivaram, 2009; DeJong, 2010; Obono, 2011). Day (2011) opines that media awareness campaigns “are varied, multifaceted, highly planned and strategically assembled media symphonies designed to increase awareness, inform, or change behavior in target audiences” (p.79).

Thus, media awareness campaigns are planned communication techniques that are designed to suit target groups in order to tackle diseases and health challenges that negatively affect individuals in the society. Interestingly, DeJong (2010) argues that media awareness

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campaigns are also known as information campaigns, which are used to raise awareness of health problems, usually with the intent of motivating people to avoid the problems.

Okorie, Oyesomi and Kayode (2014) reasoned that the effective use of media awareness campaigns to promote breast cancer care recognizes the actual and potential roles of the mass media and interpersonal channels. It is also believed that mass media channels have the power to reach and inform large audiences, while interpersonal channels have been more influential in motivating attitudinal change.

This study investigates the influence of media awareness campaigns on breast cancer care among women in South-West Nigeria. The subjects comprised women within the ages of 25 and 50 years, in Lagos, Oyo and Ekiti States. The choice of the group was based on the understanding that women within the age group (25 and 50 years) are the most vulnerable to the disease. Hulka and Moorman (2001) observe “breast cancer incidence is low (less than 10 new cases per 100,000 women) before age 25 and increases up to 100 fold by age 45”(p.104). Thus, it was essential that the researcher make use of women in residential houses to have access to women within the age range of 25 and 50 years.

The study focused on two information sources, which are interpersonal networks and the mass media. The first type facilitates personal exchanges between friends, family members, colleagues, and health care workers. The second type (mass media) facilitates mass-mediated, impersonal means such as radio, films, newspapers, magazines and television

Hypotheses

The study tested the following hypotheses:

- H₀ 1: There is no significant difference in the level of knowledge about breast cancer among women in Lagos, Oyo and Ekiti States
- H₀ 2: There is no significant difference in the level of exposure of women in Lagos, Oyo and Ekiti States to media information on breast cancer care
- H₀ 3: There is no significant difference in the sources of information on breast cancer care among women in Lagos, Oyo and Ekiti States

Theoretical Framework

The theory of reasoned action provided the anchor for this study The Theory of Reasoned Action (TRA) has its roots in the field of social psychology. It was first developed in the late 1960s but was revised and expanded by Ajzen and Fishbein in the early 1970s (Fishbein & Ajzen 1975; Mojaye, 2008). There are two important changes. First, Reasoned Actions adds another element in the process of persuasion, behavioural intention. Rather than attempt to predict attitudes, as does Information Integration theory (and several others), Reasoned Action is explicitly concerned with behaviour. However, this theory also recognises that there are situations (or factors) that limit the influence of attitude on behaviour. For example, if our attitude leads us to want to go out to a restaurant for a meal, but we have no money, our lack of money will prevent our attitude from causing us to go to the restaurant. Therefore, Reasoned Action predicts behavioural intention, a compromise between stopping at attitude predictions and actually predicting behaviour. This is because it separates behavioural intention from behaviour.

The key concepts of TRA are: (1) Behaviour: this is a specific behaviour that is defined by a combination of four components, namely action, target, context and time. (2) Intention: this is the intent to perform behaviour. It is usually the best predictor that a desired behaviour will actually occur. Intention is also defined using the same components that are used to define behaviour, which are, action, target, context and time (3) Attitude: this is the positive or negative feeling towards performing the defined behaviour. (4) Behavioural beliefs: these are the combination of a person's beliefs regarding the outcomes of a defined behaviour and person's evaluation of potential outcomes. (5) Norms: these are a person's perception of other people's opinions regarding the defined behaviour. (6) Normative beliefs: these are a combination of a person's belief regarding other people's views of a behaviour and a person's willingness to conform to those views.

As it relates to this study, when women are informed about breast cancer and the need to perform breast self-examination as a major preventive measure to tackle breast cancer, women who perceive that the outcome of performing breast self-examination will be positive, will have a positive attitude. Concomitantly, the opposite will happen if the behaviour is thought to be negative. A woman's intention to live a healthy lifestyle in diet and physical well-being can only be triggered by information and knowledge of breast cancer.

Furthermore, a major determinant preventing or supporting women in performing breast self-examination is their beliefs. These beliefs can be cultural, professional or religious. Furthermore, women can be persuaded to change their feeding habits, lifestyle as well as engage in the practice of breast self-examination.

Brief Review of Literature

GLOBOCAN (2012) reported that 8.2 million people worldwide died from cancer in 2012; 60% of world's total new annual cases occur in Africa, Asia and Central and South America. Also, 30% of cancers could be prevented. Furthermore, Okorie (2011, p.2) reasoned "Breast cancer is the most common cancer in women worldwide; it is a major cause of deaths among women aged 30 and above. It is the most common form of cancer among women in both high- and low-resource setting countries". Thus, breast cancer is a major public health concern across the globe. Breast cancer and its treatment constitute a great physical, psychological and economic challenge in resource -limited societies as found in Africa. The danger of this disease affecting women has increased the interest of many communication and health researchers to engage in various studies centred on breast cancer

Okorie, Oyesomi and Kayode (2014, p.57) citing Okorie (2011) observed that "breast cancer is a lifestyle disease that affects women in developing and developed countries; the disease has contributed to the deaths of many women in different countries of the world. The various risk factors associated with breast cancer can be categorised into epistemological and lifestyle factors". Thus, there is a snowball effect of breast cancer incidences all over the world, which is a major cause of deaths among women in developing and developed countries

In the same vein, Okorie, Oyesomi and Kayode (2014, p.57) observed that due to the increase of breast cancer incidence, "there are a number of agencies that are spearheading the media awareness campaigns in the Nigerian society. Some of these agencies include: Care. Organisation. Public Enlightenment (C.O.P.E), Princess Nikky Foundation, Breast Cancer Association of Nigeria (BRECAN), Pink Pearl Foundation, Breast without Spots, etc. These

agencies have spearheaded these health communication campaigns across the country, mobilising women to be aware of breast cancer and practice preventive screening measures”.

In the realm of health communication, there exists several scholarly works and contributions on the nature and danger of breast cancer in Nigeria. Several scholars and social scientists have agreed that the incidence of breast cancer has grown to an alarming rate in the Nigerian society (Amosun, 2009; Salaudeen, Akande & Musa, 2009, Okorie, 2011, Okorie, 2013).

Breast cancer researches and statistics pertaining to Nigerian women have been reported since the 1980s. Current statistics show that Nigerian women have experienced increase in incidence and mortality rates over thirty years span. Social scientists and researchers speculate that breast cancer would soon become the most feared disease among women in Sub-Saharan Africa because of the continued increase in breast cancer cases and mortality among women (Salaudeen et al., 2009).

From existing breast cancer researches and literature regarding Nigerian women, there are five phenomena consistently reported: (1) breast cancer is the common cancer among women in the Nigerian society (Krep & Sivaram, 2009; Salaudeen et al., 2009; Okorie, 2011); (2) breast cancer is the second leading cause of death among women between the ages of 30 to 50 years in Nigeria (Salaudeen et al., 2009; Okorie, 2011; Okorie, 2013); (3) Nigerian women with breast cancer face twice the risk of dying compared to Caucasian women because they present themselves to the hospital at the advanced stage of the disease (GLOBOCAN, 2012; Okorie, 2013); (4) One out of eight women face the chance of having breast cancer (Kreps & Sivaram, 2009); (5) the peak age incidence for breast cancer is reported to be between the ages of 25 to 50 years, in contrast to Europe and America, where it is reported to be between 65 to 75 years (Okorie, 2011; Okorie, 2013).

In previous studies, the significance of information sources used in media awareness campaigns for breast cancer communication interventions in the Nigerian society has only been highlighted but not thoroughly discussed. There have been various qualitative and quantitative studies on the role of health communication in creating awareness of breast cancer. Some have reported the rise and fall of media coverage on breast cancer in Nigeria (Lee, 2010; Amosun, 2011). However, the importance of information sources in creating awareness and knowledge of breast cancer among women has not been extensively debated and discussed among Nigerian scholars and social scientists.

This study focuses on the gap between information sources used in media awareness campaigns and breast cancer interventions in the Nigerian society. It investigated the role of media awareness campaigns in creating awareness and knowledge of breast cancer among Nigerian women. This is pivotal because knowledge is built on information, which makes information sources essential health communication tools for media awareness campaigns and interventions. Also, previous studies addressed knowledge of the disease but not breast cancer care. It is essential that attitude of women to breast cancer care be examined.

This study was designed to investigate and evaluate the influence of media awareness campaigns on breast cancer care among Nigerian women. In the field of health communication, awareness and knowledge are key elements of communication that affect the attitude and behaviour of individuals in the society. This study, therefore, presents the influence of media awareness campaigns on breast cancer care among women.

Importantly, most studies in Nigeria have failed to adopt pan-regional or comparative cases of breast cancer among women. This study was designed as a comparative study aimed at

investigating the influence of media awareness campaigns on breast cancer care among women in Lagos, Oyo and Ekiti States in South-West Nigeria.

Method

This study adopted a mixed method approach that made use of survey and focus group discussion to achieve the objectives of the study. Survey research design, which use of the questionnaire was adopted for the study. The questionnaire was the quantitative aspect of the research design adopted for the study. The items in the questionnaire measured respondents' demographic characteristics, awareness of breast cancer campaigns, knowledge of breast cancer care, sources of awareness of breast cancer and attitude towards breast cancer and breast self-examination. The focus group discussion (FGD) formed a vital part of secondary data collection in this study.

This study was carried out in the South-West geo-political zone of Nigeria. The three states purposively selected for the study were Lagos, Oyo and Ekiti States. The total female population for the study consists of women from ages of 25 and 50 years, which constitute 2,493, 793 women in the three states. The breakdown of the total population includes 1,291,685 women who reside in Lagos State, 765,340 women who reside in Oyo State, and 436,768 women who reside in Ekiti State (National Population Commission, 2006).

The choice of the study population of women from ages of 25 to 50 years was because women within this age range are the most vulnerable to breast cancer (WHO, 2008). In addition, various international organisations and groups have spearheaded the need for women within this age range to be aware and knowledgeable about breast cancer and other related issues such as breast self-examination, clinical examination and so on (WHO, 2007; IARC, 2008).

The multi-stage sampling technique was used to select the survey respondents. In the first stage, three states were purposively selected from six states in the South-West geopolitical zone of Nigeria. Lagos State was selected because it serves as the commercial hub of the nation. Oyo State was also selected because Ibadan, its capital, is the largest in terms of size in South-West Nigeria. Ekiti State was selected because it was the last state to be created in South-West geopolitical region of Nigeria.

In the second stage, the researcher stratified each of the selected states (Lagos, Oyo and Ekiti) into senatorial districts. The researcher selected two senatorial districts from each state with the use of simple random sampling, using the lottery method.

In the third stage, the researcher stratified these senatorial districts into local government areas. Lagos State has 20 local government areas, which are categorised into three senatorial districts, while Ekiti State has 17 local government areas in three senatorial districts and Oyo State has 33 local government areas in three senatorial districts. The researcher selected two local government areas from each senatorial district using simple random sampling.

In the fourth stage, the local government areas were stratified into wards, and the researcher selected two wards from one local government area by the use of simple random sampling technique using the lottery method. This makes a total of 16 wards that were studied.

In the fifth stage, the researcher stratified these wards into streets, whereby three streets were selected from each ward with the use of simple random sampling using the lottery method. In the sixth stage, the streets were stratified into residential houses; the researcher made use of systematic sampling technique to select the residential houses that fall into the sample. Then, the researcher selected the women who fall within the age of 25-50 in the sampled residential houses.

The survey had a sample size of 600 respondents for a population of women from the ages of 25 to 50 years, which constituted about 1,291,685 women who reside in Lagos; 765,340 women who reside in Oyo State and 436,768 women who reside in Ekiti State (National Population Commission, 2006). The sample size of 600 is higher than the Krejcie and Morgan's recommended sample size of 384 for the population size of 2,493, 793 at 95 percent confidence level and five percent sampling error. The sample size was divided according to the population of women between the ages of 25 and 50 years in Lagos, Oyo and Ekiti States. Also, four sessions of FGDs, comprising not more than eight persons per FGD session, were used for the study. These made it a total of 32 discussants for the study in three states. The major way for selecting the discussants was by their age group, occupation and gender. In all, a total of 632 persons participated in the study.

Due to the comparative nature of the study, hypotheses were tested to determine the differences in data in the three states selected for this study. For the hypotheses, One Way ANOVA and Cross-tabulation statistical expression were used in analysing the data. These testing procedures were used to determine the mean difference in samples. Scheffe Post Hoc test was used to determine where the significant difference(s) lie. While One Way ANOVA established differences in data, Scheffe Post Hoc test gave the details of such difference(s).

Results

A total number of 600 copies of a questionnaire were distributed to the sampled population. However, these results are based on 574 copies of the questionnaire that were properly filled and returned. This represents a 93% response rate of 574 copies of the questionnaire that were administered to the respondents.

H₀ 1: There is no significant difference in the level of knowledge about breast cancer among women in Lagos, Oyo and Ekiti States

Table 1 shows that 24.3% of the respondents in Lagos State were sufficiently knowledgeable about breast cancer, while only 12.9% were insufficiently knowledgeable about the disease. In Ekiti State, 8.4% of the respondents were sufficiently knowledgeable about breast cancer, while 15.7% were insufficiently knowledgeable about the disease. From the results, the majority of the respondents in Oyo and Ekiti states were insufficiently knowledgeable of the disease.

Table 1: Differences in the Level of Knowledge among the Three States

Level of Knowledge	South-West States				
	Ekiti	Lagos	Oyo		
Very Knowledgeable	2.1%	4.5%	2.8%		
Sufficiently Knowledgeable	8.4%	24.3%	7.2%		
Insufficiently Knowledgeable	15.7%	12.9%	22.2%		
Total	n=100%				
One Way ANOVA					
Group	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	3.479	2	1.740	3.026	.000
Within Groups	328.263	571	.575		
Total	331.742	573			

In addition, Table 1 shows the F ratio is 3.026, while the probability level is less than 0.05. This confirms that a significant difference in the level of knowledge among the three states. In essence, there is a significant difference in the level of knowledge among women in Lagos, Oyo and Ekiti States. Thus, the null hypothesis that there is no significant difference in the level of knowledge among women in Lagos, Oyo and Ekiti States was rejected.

The Scheffe Post Hoc Test was carried out in order to compare the differences in the level of knowledge in the three states. **Table 2** shows the results of the multiple comparisons on the level of knowledge of breast cancer in Lagos, Oyo and Ekiti States. This table lists the pairwise comparisons of the group means for all selected post hoc procedures. Mean difference lists the differences between the sample means. The higher knowledge mean scores indicate that there is a significant difference between states.

Table 2. Scheffe Post Hoc Analysis Comparing Differences in Knowledge in Three States

(i) WHAT STATE DO YOU RESIDE	(j) WHAT STATE DO YOU RESIDE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower-Bound	Upper-Bound
EKITI	LAGOS	.31678*	.06588	.000	.1551	.4785
	OYO	-.08863	.06953	.444	.2593	.0820
LAGOS	EKITI	-.31678*	.06588	.000	.4785	-.1551
	OYO	-.40541*	.06180	.000	.5571	-.2537
OYO	EKITI	.08863	.06953	.444	.0820	.2593
	LAGOS	.40541*	.06180	.000	.2537	.5571

* The mean difference is significant at the .05 level.

The low knowledge mean scores indicate that there is less difference between states. A 95% confidence level is constructed for each difference. If this interval contains zero, the two groups do not differ. Thus, there is a significant difference in the level of knowledge between Lagos and Oyo state, at .40.541 level. There is also is a significant difference in the level of knowledge between Lagos and Ekiti state, at.31.678 level. However, there is no significant difference between Oyo and Ekiti states, the result reveals 08863. Thus, knowledge level about breast cancer is higher in Lagos State than Oyo and Ekiti States., in that order.

H₀ 2: There is no significant difference in the level of exposure of women in Lagos, Oyo and Ekiti States to media information on breast cancer care.

From Table 3, 33.1% of the respondents in Lagos State indicated they had rarely seen or read media report on breast cancer. Also, 26.1% of the respondents in Oyo State indicated they had rarely seen or read media report on breast cancer. Out of 10.1% of respondents that indicated they had seen or read mass media reports on breast cancer to a very large extent, 4.18% of the respondents came from Lagos State. Out of 9.9% of respondents that indicated that they had listened or read mass media reports on breast cancer to a large extent, 4.53% of the respondents came from Lagos State.

Table 3: Differences in the Exposure of Mass Media Information among the Three States

Exposure to Mass Media Information		South-West States			
		Ekiti	Lagos	Oyo	
Very Large Extent		2.2%	4.1%	3.6%	
Large Extent		2.9%	4.5%	2.4%	
Rarely		20.7%	33.1%	26.1%	
Total		n=574 100%			
One Way ANOVA					
Group	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	.036	2	.018	.044	.957
Within Groups	236.823	571	.415		
Total	236.859	573			

In addition, Table 3 shows the F ratio is .044, while the probability level is not less than 0.05. This confirms that there is no a significant difference in the exposure of mass media information among women in the three states. The null hypothesis that there is no significant difference in the exposure to mass media information among women in Lagos, Oyo and Ekiti States was accepted.

H₀ 3: There is no significant difference in the sources of information on breast cancer care among women in Lagos, Oyo and Ekiti States

Table 4 shows the top three sources of information among women about breast cancer include: newspapers/magazine, television and radio. Out of 40.2% of respondents that indicated newspapers/magazines as their source of information about breast cancer, 20.4% of the respondents reside in Lagos State, 8.36% in Oyo State and 11.5% in Ekiti State.

Table 4: Differences in the Sources of Information among Women in the Three States

Source of Information		South-West States			
		Ekiti	Lagos	Oyo	
Television		8.5%	13.1%	8.7%	
Radio		2.61%	4%	5.7%	
Newspapers/Magazines		11.5%	20.4%	8.3%	
Family		0.7%	1.9%	1.2%	
Friends		0.5%	2.1%	0.5%	
Health care workers		2.1%	0.3%	7.6%	
Total		n=574 100%			
One Way ANOVA					
Group	Sum of Square	Df	Mean Square	F	Sig.
Between Groups	125.948	2	62.974	16.523	.000
Within Groups	2176.270	571	3.811		
Total	2302.218	573			

Also, the Table 4 shows that 13.1% of the respondents reside in Lagos State, 8.71% in Oyo State and 8.53% in Ekiti State. Only, 5.74% respondents that claimed that radio was their primary

source information reside in Oyo State, 4% in Lagos State and 2.61% in Ekiti State. Health workers and family members serve as secondary sources of information about breast cancer. Also, 10.1% of the respondents indicated that health workers were their source of information, while 3.8% of the respondents indicated that their family members were their source of information

In addition, Table 4 shows the F ratio is 16.523, while the probability level is less than 0.05. This confirms that there is a significant difference in the sources of information used among women in the three states. Therefore, the null hypothesis that states there is no significant difference in the sources of information used among women in Lagos, Oyo and Ekiti States was rejected.

Thus, there is a significant difference in the sources of information used among women in Lagos, Oyo and Ekiti States. The Scheffe Post Hoc Test was carried out in order to compare the differences in sources of information used among women in Lagos, Oyo and Ekiti States.

Table 5 shows the results of the multiple comparisons on information sources used by women in the three states. This table lists the pairwise comparisons of the group means for all selected post hoc procedures. Mean difference lists the differences between the sample means. The high mean scores indicate that there is a significant difference between states. The low mean scores indicate that there is less difference between states.

Table 5. Scheffe Post Hoc Analysis Comparing Differences in Sources of Information in Three States

(i) WHAT STATE DO YOU RESIDE	(j) WHAT STATE DO YOU RESIDE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower-Bound	Upper-Bound
EKITI	LAGOS	.24474	.20362	.486	-.2550	.7445
	OYO	-.82913*	.21490	.001	-1.3565	-.3017
LAGOS	EKITI	-.24474	.20362	.486	-.7445	.2550
	OYO	-1.07387*	.19100	.000	-1.5426	-.6051
OYO	EKITI	.82913*	.21490	.001	.3017	1.3565
	LAGOS	1.07387*	.19100	.000	.6051	1.5426

* The mean difference is significant at the .05 level.

A 95% confidence level is constructed for each difference. If this interval contains zero, the two groups do not differ. Thus, there is a significant difference in the sources of information used among women in Lagos and Oyo States, at .1.07387 level. There is also a significant difference in sources of information used among women in Oyo and Ekiti States, at 82.913 level. However, there is no significant difference between Lagos and Ekiti States, at .24474 level.

Discussion of Findings

The effective use of the mass media and interpersonal channels in media awareness campaigns have long been recognised among scholars in the field of health communication. Media awareness campaigns represent a core enterprise in the field of media and communication studies. These campaigns are essential intervention tools used to influence public health.

The presentation and analysis of the data have brought a lot of issues to the fore. Some of these issues support as well as mark a departure from existing literature and theory in health

communication studies. This study was undertaken to ascertain the effectiveness in the use of the mass media and interpersonal channels in media awareness campaigns in South-West Nigeria.

Three hypotheses were tested with the use of One Way ANOVA, cross tabulation and Scheffe Post Hoc test. These hypotheses were tested to determine the variance(s) or difference(s) in the three states. The first hypothesis, which tested there is no significant difference in the level of knowledge about breast cancer among women in Lagos, Oyo and Ekiti States, was rejected. From the findings, there is a significant difference in the level of knowledge between Lagos and Oyo States. There is also a significant difference in the level of knowledge between Lagos and Ekiti States.

Lagos State has a high knowledge mean score compared to the other states because it is the base of most breast cancer awareness agencies. Agencies such as Care. Organisation. Public Enlightenment (C.O.P.E), Community Health Control Mission Education Forum, Pink Pearl foundation, Princess Nikky foundation have their headquarters in Lagos State. Lagos State is also the base of most media organisations in Nigeria. Most breast cancer awareness agencies take advantage of the concentration of media outlets to create awareness and knowledge of breast cancer.

The second hypothesis, which tested there is no significant difference in the level of exposure of women in Lagos, Oyo and Ekiti States to media information on breast cancer care, was accepted. The result reveals the F ratio was .044, while the probability level is not less than 0.05. This confirms that there is no a significant difference in the exposure of mass media information among women in the three states. This could be attributed to the pluralistic nature of the media as well as a relatively high literacy level in this region. There are several channel options for persons to select from in this region. The proliferation of media outlets in the region is a significant advantage for health communication interventions.

Importantly, exposure to mass media information could contribute significantly to education. Education is the bedrock of health development. It is fundamental for economic growth and development of a nation. Education accelerates health literacy and awareness of the environment. Thus, there is a dire need for continued media awareness of health issues in Nigeria; this would reduce the increasing incidences of death due to the disease. The result of a focus group discussion reveals that majority of the discussants believed that mass media education on breast cancer can prevent the damaging effects of breast cancer, when women are educated to respond early enough to engage in preventive measures and clinical treatment against breast cancer. One of the discussants asserted, "I have met with someone that I know very closely that had the disease. It is like a lump on the breast if it is not taken care of early enough, it can result to death. Like in her own case, she did not know early enough, it was after a year she went to the hospital for treatment; then the doctor told her it was breast cancer. Eventually, she was operated upon; the operation was so severe that she could not survive it, so she died".

The third hypothesis, which states that there is no significant difference in the sources of awareness among women in Lagos, Oyo and Ekiti States, was rejected. The result reveals that the F ratio is 16.523, while the probability level is less than 0.05. This confirms that a significant difference in the sources of information used among women in the three states.

From the result, there is a significant difference in the sources of information used among women in Lagos and Oyo States. There is also a significant difference in sources of information used among women in Oyo and Ekiti States. However, there is no significant difference between Lagos and Ekiti States. These results could also be attributed to the different literacy level among the three states. The view shared by some participants in focus group discussion mentioned

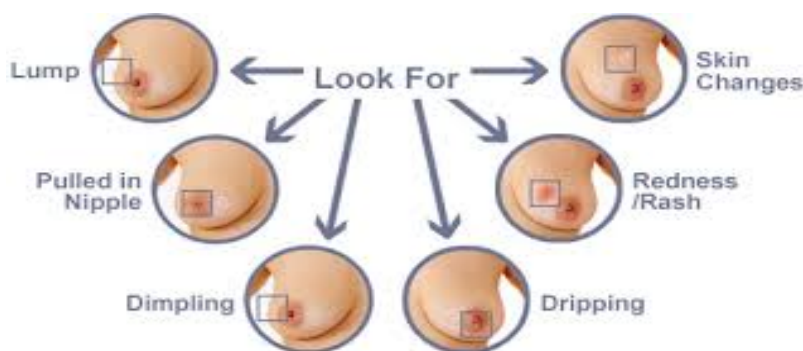
newspapers and magazines as their most potent information source about breast cancer. They claim that newspapers and magazines provide detailed reports about the disease. Most of them opined that newspapers, magazines and medical journals serve as veritable channels for health communication messages compared to other traditional mass media. One of the discussants asserted “the mass media have contributed a lot; I hope to see the impact because, from all indications, they are increasing knowledge of the disease”.

Thus, this study has also shown that newspapers and magazines are prime sources in creating awareness and knowledge of breast cancer, which is contrary to several media studies indicating television as the prime source of information for knowledge acquisition. It also believes that television has the power to shape how we think and relate with one another (Lee, 2010). However, in health communication studies, scholars have found out that educated women prefer to access newspapers, magazines and medical journals than watch television health programmes. They have argued that women rely on the print media as one of its major sources of information on cancer, and women read magazines for breast cancer information (Kreps & Sivaram, 2010; Leask et al., 2010).

Magazines include a variety of breast cancer information such as information on risk factors, diagnostic methods, and treatment options (Okorie et al., 2014). A study of approximately 400 women age 40 and older found that the participants considered newspapers or magazines as a more useful source of cancer information than other types of mass media, such as radio and television (Johnson et al., 1992). For many women, magazines provide basic health information, and this information serves as a point of comparison for the additional health information they may receive.

In some situations, a woman may have some of the symptoms discussed in a magazine article and become motivated to consult a physician. For example, **Figure 1** shows a photo report, which illustrates the signs of breast cancer among Nigerian women.

Figure 1: Signs of Breast Cancer



Some major warning signs of breast cancer illustrated are: appearance of a lump, change of skin colour and redness or rashes at the breast region. In another situation, a woman diagnosed of breast cancer can be motivated to fight the disease if she reads a story of breast cancer survivors on newspaper and magazine. For example, **Figures 2** and **3** show magazine cover pages that reported Mrs Kehinde Gbelee and Mrs Juliet Aguwa as breast cancer survivors.

Figure 2: Breast Cancer Survivor- Mrs. Kehinde Gbelee



Figure 3 Breast cancer Survivor- Mrs. Juliet Aguwa



According to media reports, Mrs Juliet Aguwa was diagnosed with stage 3 aggressive breast cancer in 2008 within two months of routine medical check. Mrs Aguwa had to undergo surgery as well as chemotherapy and radiation treatment for breast cancer. She became a survivor of breast cancer because of the great support of her mother, husband, other family members and medical personnel. Her story was featured in *Genevieve* Magazine, *Elan* Magazine and *THISDay* Newspaper to create awareness and knowledge of breast cancer as well as motivate women to fight the disease in Nigeria. Also, Figure 3 shows photo story about non-governmental agencies raising the alarm of the increasing incidence of breast cancer in Nigeria and the need to tackle breast cancer among women.

It is these types of developments (see **Figure 5**) that led Nekhlyudov, Ross-Degnan, and Fletchers (2003) to assert that people receive most of their breast cancer screening information from the mass media due to limited contact and interaction with primary care providers. Media channels differ in function, however; information in print media may be especially important because it can be stored and later retrieved. From the findings of this study, the view shared by some participants in a focus group discussion was that the newspapers and magazines serve as one

of the primary sources of information about breast cancer because they provide reports on the nature and dangers of disease in the society.

Figure 5: Photo Story of Media Awareness Campaign against Cancer



Conclusion

Following the analyses of the data and the findings, the level of knowledge of breast cancer in South-West Nigeria is still low. Some of the factors limiting the knowledge of breast cancer care in the area of study are cultural traditions, secrecy and religion. This study had also found out that these factors negatively affect the attitude of women to breast self-examination.

Another key variable that impacted significantly on the knowledge and the practice of breast self-examination among women was the source of information. It is a well-known fact that information received increases general knowledge. Thus, it could be said that breast cancer information increases the general knowledge of breast cancer and this could lead to better decision-making regarding healthier lifestyles. Respondents in this study received most of their breast cancer information from newspapers/magazines, television and radio. Newspapers/magazines and other mass media were also the most common sources of breast cancer information listed in other studies, while health care workers were also seen as the preferred source of interpersonal channels of communication. Thus, it is recommended that mass media messages be included as the main mechanism to improving breast cancer care among women. This is essential because mass media messages can produce positive changes or prevent negative changes in health-related behaviours of women in South-West Nigeria.

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