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Awareness, Knowledge and Practices of Breast Cancer Prevention among Women with Family History of Breast Cancer in Ede, Osun State, Nigeria

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Abstract: *Women with Family History (FH) of Breast Cancer (BRCA) in first-degree relative have a relative risk >4 due to inherited genetic mutation genes. This study therefore assessed knowledge and practices of BRCA prevention among women with FH of BRCA in the study area.*

This is a cross-sectional study. Snowball sampling technique was used to select 189 women with FH of BRCA. A semi-structured questionnaire was used to obtained data and Descriptive statistics and t-test were used for the analysis.

Respondents mean age was 43.4±9.2 years. Some (42.9%) were not aware of their susceptibility to BRCA. Some (42.9%) of respondents have family members who had died of BRCA and 13.2% have family members who currently have BRCA. Many (61.4%) believed that BRCA is not curable even when detected early and 65.1% did not know that painless lump in the breast is one of the signs of BRCA. Preventive practices among respondents included regular taking of herbs (67.5%) and breastfeeding for longer than 1 year (14.5%). Majority (96.3%) and 38.6% have never performed mammogram and breast self examination respectively.

Incorrect preventive practices existed among respondents. Information, education and communication programme on breast cancer prevention should be intensified for these women.

Keywords: *Awareness, Breast Cancer, Family History, Knowledge, Practices*

I. Introduction

There are diverse risk factors that may affect each woman's susceptibility to Breast Cancer (BRCA) [1]. Family History (FH) of BRCA has been scientifically documented as one of the risk factors associated with it. BRCA is the commonest cancer among women in the world and in Nigeria [2]. The relative frequencies of BRCA among other female cancers, from Cancer Registries in Nigeria were 35.3% in Ibadan, 28.2% in Ife-Ijesha, 44.5% in Enugu, 17% in Eruwa, 37.5% in Lagos, 20.5% in Zaria and 29.8% in Calabar [3]. In all the centers, except Calabar and Eruwa, breast cancer rated first among other cancers. Further reports showed that majority of cases occurred in pre menopausal women, and the mean age of occurrence ranged between 43–50 years across the regions. The youngest age recorded was 16 years, from Lagos [3]. Adebamowo and Ajayi [2] also reported that peak age of incidence in Nigeria is 42.6 years, and that 12% of cases occurred before 30 years while postmenopausal women accounted for 20% of cases. In a recent oncological review of cases in Jos, Nigeria, over an 8-year period, BRCA was reported to account for 56.6% of all cancer diagnosis between 1995-2002 [4]. Among Nigerian women, the peak age of BRCA presentation is about 10-15years earlier than what is observed in Caucasian women, where it occurs between the ages of 35-45 years. Seventy percent of Nigerian women present with advanced staged disease while the five-year survival rate is less than 10% compared with over 70% in Western Europe and North America [5]. Odusanya found BRCA to be the most common surgical condition women worry about in a list of eleven comparable conditions [6]. According to Odusanya, BRCA is not well understood by women and there is a need for information and enlightenment if they are to present early in hospital. Among Nigerian women, some of the factors preventing early hospital presentation and thus increasing mortalities are thought to include inadequacy of systems protecting and promoting women's health and cultural taboos regarding the female body. Lack of knowledge about BRCA has also been identified as an important factor preventing women from participating in BRCA screening. Few studies have examined the knowledge, attitude and practice of women towards BRCA in Nigeria [6,7,8,]. These studies are often of small sample size and targeted women in special professions. We are unaware of any study that has examined these issues among women with FH of BRCA who constitute the majority of at risk women both for the disease and late presentation. This study recruiting 189 women with FH of BRCA in both urban and rural communities in Nigeria was designed to evaluate the knowledge and practice of these women towards BRCA.

II. Methods

2.1 Study Area

Ede is located at 10°27' North and 13°27' East. Ede is in the Osun State, which is in the south western part of Nigeria. Ede is situated on the banks of Oshun River near Ibadan. However the city is practically built on railroad. The people are Yorubas. Among the higher institutions located in Ede, are the Federal Polytechnic and the Redeemed Christian Church of God Bible College. Several mosques and churches dot the land scape. Historically, it was an important town in Yorubaland. Egungun festival is still widely celebrated, like many other traditional festivals. However, more and more people are celebrating Christmas, New Year's Day and Ileya (Id-el Kabir) festival. In fact, throughout Nigeria, Id-el Kabir is celebrated most in Ede.

2.2 Study design

The study was conducted as a descriptive cross-sectional survey among women with Family History of Breast Cancer in Ede, Osun State, Nigeria. The study sought to determine the respondents' level of awareness of their susceptibility, knowledge of Breast Cancer and preventive practices. The data collection was carried out between June and August, 2010.

2.3 Study Procedures/Instrument

A total of 189 women with family history of breast cancer in first-degree relative(s) were used for the study. A self-administered questionnaire was used to obtain relevant socio-demographic characteristics, awareness, knowledge, and practice towards BRCA from respondents'. The questionnaire was developed by the authors based on information in the literature on risk factors, common signs and symptoms of BRCA and common methods of early detection. Snowball sampling procedure was adopted to select respondents' for the study.

2.4 Data Collection Procedure

A pre-tested interviewer administered semi structured questionnaire was used to interview 189 women with family history of breast cancer in first degree relative in Ede, Nigeria. The questionnaire was pre-tested in Iwo, a community similar to Ede in socio-demographic characteristics and necessary amendments made subsequently.

2.5 Data Analysis

A coding guide was developed by the researchers and was used in coding the questionnaires. Data entry and analysis were done by expert statistician using SPSS software. Descriptive statistics and Chi-Square were used. Frequencies were generated and cross tabulation of some variable.

III. Results

3.1 Demographic Characteristics

The age of the respondents' ranged from 25 to 62 years with the mean age of 43.4 ± 9.2 years. Majority 169 (89.4%) were married and 10 (5.3%) were widow. All (100%) of the respondents' were Yoruba. Higher proportion 77(40.7%) of the respondents' have no education, 30 (15.9%) have either Ordinary National Diploma (OND) or National Certificate of Education (NCE) and 18 (9.5%) have either Higher National Diploma (HND) or First Degree (B.Sc). **Table 1**

Table 1: Socio-demographic characteristics of the Participants

Variable	N =189 No	%
Age (years)		
25-34	29	15.3
35-44	65	34.4
45-54	66	34.9
55-64	29	15.3
Marital status:		
Single	5	2.6
Married	169	89.4
Seperated	5	2.6
Widower	10	5.3
Religion practice:		
Christianity	55	29.1
Islam	134	70.9

Educational Status:		
No Education	77	40.7
Primary School	45	23.8
Secondary Education	19	10.1
OND/NCE	30	15.9
HND/BSC	18	9.5
Ethnic group:		
Yoruba	189	100.0

3.2 Awareness of Breast Cancer

Many 81(42.9%) of the respondents were not aware of their susceptibility to BRCA and 25 (13.2%) currently have family member(s) who currently have BRCA. These family members were Mother 12(6.3%), Sister 12 (6.3%) and Grandmother 1 (0.5%). Some 38 (20.1%) have family member(s) who had died of BRCA and these members were Mother 18 (9.5%), Sister 3 (1.6%) and Grandmother 17 (9.0%). **Table 2**

Table 2: Awareness of BRCA

Variable	**N =189 No**	**%**
Awareness of susceptibility to BRCA		
Yes	108	57.1
No	81	42.9
Aware of family member who currently have BRCA		
Yes	25	13.2
No	164	86.8
Members who currently have BRCA		
Mother	12	6.3
Sister	12	6.3
Grandmother	1	0.5
Awareness of family member who had died of BRCA		
Yes	38	20.1
No	151	79.9
Members who had died of BRCA		
Mother	18	9.5
Sister	3	1.6
Grandmother	17	9.0

3.3 Participants' Knowledge of Breast Cancer

The knowledge of the respondents on BRCA was assessed by posing seventeen true or false statements. As shown in Table 3, respondents had varying degree of knowledge on the risk factors, signs and symptoms and prevention of BRCA. A 17-point knowledge scale was used to measure the respondents' knowledge. A positive knowledge attracted a score of 1 point while the score for a negative knowledge was zero. A total score of < 9 and ≥ 9 points were considered poor and good knowledge respectively. The overall mean knowledge score of the respondents' was 8.31 ± 2.7. One hundred and seven (56.6%) of the respondents had a poor knowledge while the remaining 43.4% had a good knowledge. Majority 185 (97.9%) of the respondents did not know that BRCA is not only the disease of women and 25.9% believed that BRCA is mostly caused by spiritual powers. Eighty one (42.9%) did not know that FH of BRCA is one of the risk factors of BRCA. **Table 3**

Table 3 Knowledge on Breast Cancer

	Knowledge of Breast Cancer	Yes	No	
1.	Breast cancer is strictly a disease of women	185 (97.9%)	4(2.1%)*	
2	Breast cancer is mostly caused by spiritual powers	49 (25.9%)	140 (74.1%)*	
3	Exposure to multiple chest x-rays increases the chances of breast cancer	119 (63.0%)*	70 (37.0%)	
4	Exposure to ionizing radiation increases the chances of breast cancer	117 (61.9%)*	72 (38.1%)	
5	High alcohol consumption increases the chances of having breast cancer	47 (24.9%)*	142 (75.1%)	
6	Breast cancer is curable if detected early	73 (38.6%)*	116 (61.4%)	
		Yes	**No**	**Don't Know**
7	Risk factors for breast cancer			
	a. Family history of breast cancer	108 (57.1%)*	81 (42.9%)	0 (0.0%)
	b. Obesity	65 (34.4%)*	113 (59.8%)	11 (5.8%)
	c. Regular exercise	0 (0.0%)	189 (100%)*	0 (0.0%)
	d. Exclusive breast feeding	38 (20.1%)	145 (76.7%)*	6 (3.2%)
8	Signs and symptoms of breast cancer			
	a. Painless lump in the breast	66 (34.9%)*	123 (65.1%)	0 (0.0%)
	b. Ulcer of the breast	189 (100.0%)*	0 (0.0%)	0 (0.0%)
	c. Bloody discharge from the nipple	189 (100.0%)*	0 (0.0%)	0 (0.0%)
9	Ways of diagnosing breast cancer			
	a. Mammography screening	26 (13.8%)*	8 (4.2%)	155 (82.0%)
	b. Self breast examination	149 (78.8%)*	4 (2.1%)	36 (19.0%)
	c. Fine needle aspiration	4 (2.1%)*	11 (5.8%)	174 (92.1%)
	d. Chest x-rays	10 (5.3%)	23 (12.2%)*	156 (82.5%)

* correct responses

3.4 Participants' practice of early detection measures of BRCA

Many 73 (38.6%) and 96.3% of respondents' have never performed Breast Self Examination (BSE) and mammography screening respectively. Reasons given for the poor early detection screening practices were lack of knowledge on how BSE is done 75 (39.7%), unawareness of mammography screening service availability 51 (27.0%) and fear of discovering abnormalities (82.7%). **Table 4**

Table 4: Practice of early detection of BRCA

		Yes	No
1.	Ever performed BSE	116 (61.4%)	73 (38.6%)
2.	Ever performed mammogram	7 (3.7%)	182 (96.3%)

3.5 Preventive practices of BRCA by respondents'

Preventive practices mentioned by respondents' were regular taking of herbs (29.6%), breastfeeding longer than 1 year (6.3%), and regular exercise (30.2%). **Table 5**

Table 5: Practices of BRCA prevention

	BRCA prevention practices	Freq./%
1.	Breastfeeding longer than 1 year	12 (6.3%)
2.	Regular taking of herbs	56 (29.6%)
3.	Weight loss	4 (2.1%)
4.	Regular medical check up	37 (19.6%)
5.	Regular exercise	57 (30.2%)
6.	Improved hygiene	11 (5.8%)

3.6 Determinants of BRCA knowledge

The mean knowledge score of the respondents was low (8.3 ± 2.7). Only 82 (43.4%) have a knowledge score of ≥ 9. A large proportion 46 (56.9%) of respondents in age group 35-44 year have higher level of

knowledge compared with other age groups 36 (43.9%) (X^2 =70.9, df = 3, p =0.00). We also assessed the association of knowledge score with level of education. There were 82 (43.4%) study participants who have good knowledge score. A smaller proportion 39 (47.6%) of respondents with secondary school education and below have good knowledge score compared with 43 (52.4%) of those with education level above secondary school. Higher level of education was significantly associated with knowledge score (X^2 =88.7, df = 4, p =0.00).

There is also a significant association between respondents' knowledge score and awareness of their susceptibility to BRCA. A total of 108 (57.1%) respondents were aware of their susceptibility and 82 (43.4%) have a good knowledge score. A larger proportion 67 (81.7%) of respondents who are aware of their susceptibility have a good knowledge score compared with 15 (18.3%) who were not aware of their susceptibility (X^2 =35.7, df = 1, p =0.00).

3.7 Determinant of mammography screening practice

The association between the use of mammography screening and level of education was assessed. Only 7 (3.7%) respondents have ever performed mammogram and all of them are respondents with HND/First Degree. This shows that educational level is significant with the use of mammography screening as an early detection of BRCA (X^2 =69.1, df = 4, p =0.00). There was no significant association between respondents' awareness of their susceptibility to BRCA and use of mammography service.

3.8 Determinant of BSE practices

Respondents' practice of BSE was also assessed with level of education. There were 73 (38.6%) of respondents who have never performed BSE. A larger proportion 61 (83.6%) of respondents with secondary school education and below have never performed BSE compared with 12 (16.4%) of those with education level above secondary school. Higher level of education was significantly associated with practiced of BSE (X^2 =43.4, df = 4, p =0.00).

A significant association was also found between respondents' awareness of their susceptibility and practice of BSE. A total of 108 (57.1%) respondents were aware of their susceptibility and 116 (61.4%) have ever performed BSE. A larger proportion 86 (74.1%) of respondents who are aware of their susceptibility have ever performed BSE compared with 30 (25.9%) who were not aware of their susceptibility (X^2 =35.4, df = 1, p =0.00).

IV. Discussion

This study revealed that majority of the population had no formal education. The educational structure is the same with the study conducted in Ibadan, Nigeria in which 56.5% of the study population had no formal education [16] and another study [9] in a sub urban population also reported that 33.2% of the population had no formal education. Majority of the respondents was in the 35-54 year age group. This age group of women are more vulnerable to breast cancer compared with other women in other age group. This age structure is different from that of a study conducted in Ibadan where more than half of the study population was in the 20-40 year age group where many of the older women declined to participate in the study [16].

The results of this study suggest that women with family history of breast cancer in first degree relative(s) have a poor knowledge of breast cancer. This may partly explain the late presentation of breast cancer among women. This finding is similar to the study [15]. The poor level of knowledge found in this study is in keeping with reports of other investigators [6,7,8]. In a survey of breast cancer knowledge, Uche [8] noted that only 32% of the respondents knew that a breast lump was a warning sign for breast cancer, 58.5% were unaware of the most warning signs and only 9.8% knew of methods of detecting breast cancer. The findings of another study in Iran showed that only 44.0% of women said that painless lump is a common symptom of breast cancer [17]. Our study also showed that majority of women with family history of breast cancer were not aware of a painless breast lump as a common presentation of breast cancer and only 13.8% were aware of mammography as a screening tool for breast cancer. This is consistent with other studies from developing countries and women from minority ethnic groups [13,14], whereas a study from U.K indicated that 70.0% of women were well aware of painless lump and able to identify these symptoms in their breast self-examination [12]. In Nigeria, even professional health workers such as nurses who are supposed to be leaders in breast awareness were reported to have similar low knowledge scores [7]. Odusanya and Tayo [7] found that only 27% of nurses in a tertiary health institution in Lagos, Nigeria could identify up to 3-4 risk factors for breast cancer. In addition, 51% of these nurses wrongly identified the use of fingertips in performing BSE. All the respondents knew that bloody discharge from nipple is a warning sign of breast cancer. This finding is not in accord with a study in Iran [17] which showed that only 6.0% women knew bloody discharged from nipple as a warning sign of breast cancer.

The use of screening methods was very low among our study respondents. Majority and some of the respondents did not know that mammography and breast self-examination respectively as ways of diagnosing breast cancer. This agrees with a previous study [15] which also showed that the use of screening methods was

very low among the study subjects where only 34.9% practiced BSE in the past year and none ever had a mammogram. In a study by Jacobs *et al,* [10] on the practice of BSE among black women in the US found that 89.0% of respondents indicated practicing BSE during the past year, 74.0% indicated having done so during the past six months, and 39.0% indicated performing self exam monthly. Similar percentage of US women reporting practice of BSR monthly or more often have been reported by other investigators. [11]

V. Conclusion

The results of this study revealed a poor knowledge and inadequate early detection and preventive practices among women with family history of breast cancer in spite of their susceptibility to the disease. Health education programme is urgently needed to rectify the poor knowledge and inadequate practices.

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