



Knowledge and Practice of Breast Cancer Screening Among Female Nurses and Lay Women in Osogbo, Nigeria

Connaissance et pratique de dépistage du cancer du sein chez les infirmières et Lay Femmes En Oshogbo, au Nigéria

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ABSTRACT

BACKGROUND: Breast cancer is the most common cancer among African women. Most researchers have attributed the late presentation to poor knowledge of breast cancer symptoms.

OBJECTIVE: This study was designed to evaluate the relationship between knowledge and practice of breast cancer screening in two groups of women with different levels of knowledge of breast carcinoma.

METHODS: A cross-sectional study was conducted using self administered questionnaire to assess the knowledge, attitudes and practice of breast cancer and screening programmes among nurses in a university teaching hospital, and women in non health professionals in south-western Nigeria.

RESULTS: The mean knowledge score for the nurses was 10.9% ± 3.6 whereas the mean score for non-health professionals was 3.5% ± 4.1 (p value < 0.001). In those above the age of 40 years, comprising 141 subjects, 35 nurses and 106 women in non-health professionals, 22.9% and 15% respectively had had a mammogram (p=0.289, 1.123).

CONCLUSION: Good knowledge does not imply better screening rates in south-western Nigeria. *WAJM* 2011; 30(4): 296–300.

Keywords: Breast cancer screening, knowledge, mammography.

RÉSUMÉ

CONTEXTE: Le cancer du sein est le cancer le plus fréquent chez les femmes africaines. La plupart des chercheurs ont attribué la présentation tardive d'une mauvaise connaissance des symptômes de cancer du sein.

OBJECTIF: Cette étude a été conçue pour évaluer la relation entre la connaissance et la pratique du dépistage du cancer du sein chez deux groupes de femmes de différents niveaux de connaissance de carcinome mammaire.

MÉTHODES: Une étude transversale a été réalisée en utilisant l'auto questionnaire administré à évaluer les connaissances, attitudes et pratiques de cancer du sein et les programmes de dépistage chez les infirmières dans un hôpital d'enseignement universitaire, et les femmes dans les professionnels de santé non dans le sud-ouest du Nigeria.

RÉSULTATS: Le score de connaissance signifie pour les infirmières était de 10,9% ± 3,6 alors que le score moyen pour les non-professionnels de la santé était de 3,5 ± 4,1% (valeur p < 0,001). Dans ceux au-dessus de l'âge de 40 ans, comprenant 141 sujets, 35 infirmières et 106 femmes chez les non-professionnels de la santé, 22,9% et 15% respectivement avaient subi une mammographie (p = 0.289, 1.123).

CONCLUSION: Bonne connaissance n'implique pas un meilleur taux de dépistage dans le sud-ouest du Nigeria. *WAJM* 2011; 30(4): 296–300.

Mots-clés: Dépistage du cancer du sein, de connaissances, la mammographie.

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Abbreviations: ACS, American Cancer Society; CBE, Clinical breast examination; BSE, Breast self-examination; NHPs, Non-health professions.

INTRODUCTION

Breast cancer is the most common cancer among African women. Presentation is common in Nigeria when little or no advantage can be derived from treatment.¹ Most of the studies on knowledge, attitudes, and practice of women on breast cancer have shown that African women, including Nigerians, have low knowledge of the risk factors of breast cancer, and concluded that the poor practice of Nigerian women to breast cancer screening programs may be due to poor knowledge.^{2,3-7} Research from the United States shows that African American women are more likely to die of breast cancer when compared to whites or Hispanics due to their health behavior.⁸⁻¹¹

Early breast cancer detection through mammogram, clinical breast examination (CBE), and breast self-examination (BSE) is critical to reducing breast cancer-related morbidity and mortality. The American Cancer Society (ACS) recommends mammograms and CBE every year for women aged 40 years and above for early breast cancer detection. Monthly BSE is now recommended as an option for females between 20–40 years. Although the efficacy of BSE as a breast cancer screening method is controversial, research suggests that the BSE is an efficient method of detecting cancerous lesions at an earlier stage, which leads to better outcomes, such as lower breast cancer-related mortality and morbidity.¹²

Most studies on knowledge of breast cancer demonstrate that nurses have good knowledge of the risk factors and are aware of screening modalities.^{6,7} We conducted this study to compare the knowledge and practice of female nurses with women who are not of the health profession in order to evaluate possible differences in practice to breast health.

SUBJECTS, MATERIALS, AND METHODS

The study was a questionnaire survey of the knowledge, attitudes and practice to breast cancer of nurses as compared with non health women. A self administered questionnaire was used to obtain information. The questionnaire was designed to test their knowledge on

the risk factors of breast cancer, its symptoms and methods of treatment. The questionnaire also tested their level of perception of risk of developing cancer. The nurses were volunteers who came for a health talk on breast cancer, comprised group A. The lay women were selected by a non-governmental organisation called 'Women and Children Development Initiative Fund' (WOCDF); from the 32 local government areas of Osun state Nigeria for health seminar on breast cancer, this comprised group B.

The questionnaires were distributed and filled by the participants before the beginning of the health talk. Participants who did not understand the English language were assisted to fill the form by members of the research team.

Three hundred and fifty lay women filled the questionnaire, out of which 203 were properly filled and suitable for analysis. One hundred and ten nurses were involved in the seminar, and 74 questionnaires were filled correctly.

The questionnaire was divided into four sections; the first section contained information about the demographic characteristics of the subjects. The second part tested their knowledge on risk factors, symptoms, treatment, and screening methods. The third section was on risk perception and the fourth section was on the practice of self breast examination and use of mammography. In sections 1 and 2, a correct response was scored 1 point, a wrong or not sure response was scored 0. We did not score answers in section 3 and 4.

All the women were tested on their practice of self breast examination those above the age of forty years were asked if they had ever had a mammogram, and the response was analyzed for the two groups to compare differences in health behaviour.

Statistical Analysis

SPSS V16 statistical package was used in data analysis. Frequency distributions were produced for the variables and comparisons were by chi-square test for qualitative variables and independent sample t test for numerical variables. Level of statistical significance was set at $P < 0.05$.

RESULTS

Two hundred and seventy- seven women were involved in this study, comprising 74 (26.7%) nurses and 203(73.3%) lay women who do not work in the health sector. The subjects were divided into two groups, Group A comprised the Nurses and Group B comprised women in non-health professions (NHPs). The mean age of the nurses was 40 ± 6.42 years, and of the lay women 40.3 ± 12.2 years ($p = 0.893$). One hundred and forty -one of the subjects were above the age of 40 years comprising 35 (24.8%) nurses and 106 (74.2%) in group B. (Table 1).

Awareness

Most of the respondents were aware of breast cancer. Among the lay group, 89% were aware of breast cancer, and the first source of information was the radio in 46% of cases, followed by television (23%). All the nurses were aware of breast cancer and their first source of information was the hospital in 43% followed by the radio station (21%).

Knowledge about the Risk Factors of Breast Cancer (Table 2)

The subjects were tested on 13 points on the risk factors of breast cancer. The mean score for the nurses was $10.9\% \pm 3.6$ whereas for Group B it was $3.5\% \pm 4.1$, (p value < 0.001).

The nurses demonstrated a better knowledge on all the specific risk factors examined, with statistically significant differences in all the thirteen risk factors. Diet rich in fat, obesity, and positive family history were identified by 65%, 69%, 92% of the nurses respectively as risk factors for breast cancer as compared to 32.5%, 28.1% and 39.7% of the lay women. ($p < 0.001$). Also, 74%, 70.3% of the nurses correctly associated age and the female sex as risk factors of breast cancer as compared to 27% and 28% of lay women, ($p < 0.001$).

The Knowledge on the presenting Symptoms and Signs (Table 2)

The knowledge of the presenting symptoms and signs of breast cancer was scored on a 5-point scale; the nurses had a mean score of 4.04 whereas NHPs had a

Table 1: Demographic Characteristics of Study Subjects

Number (n=277)	Nurses Professionals	Non-health
Number (%)	74 (26.7)	203(73.3)
Age (means + SD)year	40.13±6.4	40.33±12.2(p=0.893)
Marital Status of 273 women N(%)		
Married	63 (85.1)	145 (76.2)
Single	8 (10.8)	37 (18.6)
Widowed	2 (2.7)	16 (8.0)
Divorced	1 (1.4)	1 (0.5)
Education level of 270 women N(%)		
Primary	0	15 (7.7)
Secondary	0	86 (31.9)
Diplomas/HND	70 (94.6)	87 (44.8)
University/Post-doctorate	4 (5.4)	8 (4.1)
Previous family history in 265 women N(%)		
Yes	11 (15.5)	25 (12.9)
No	59 (83.1)	162 (83.5)
I do not know	1 (1.4)	7 (3.6)

Table 2: Response of Specific Knowledge of Risk Factors and Signs of Breast Carcinoma

Knowledge of Risk factors	Group A N=74 (%)	Group B N=203 (%)	P value	χ^2
Mean knowledge score of risk factors	10.9±3.6	3.5±4.06	<0.001	
Knowledge of specific risk factors				
1. Fatty diet	48 (65.0)	66 (32.1)	<0.001	34.3
2. Alcohol intake	48 (65.0)	70 (34.5)	<0.001	31.3
3. Oral contraceptives	65 (89.0)	68 (33.5)	<0.001	65.1
4. Positive family history	68 (92.0)	79 (39.0)	<0.001	59.1
5. Exposure to radiation	70 (95.0)	61 (30.0)	<0.001	91.5
6. Smoking	51 (69.0)	94 (46.3)	<0.001	17.1
7. Little or no breast feeding	43 (58.1)	48 (23.6)	<0.001	36.2
8. Obesity	51 (69.0)	57 (28.1)	<0.001	39.8
9. Early Menarche	46 (63.0)	49 (24.1)	<0.001	39.8
10. Late childbearing	41 (55.4)	28 (13.9)	<0.001	52.9
11. Late Menopause	41 (55.4)	44 (22.0)	<0.001	34.2
12. Age	54 (72.9)	54 (26.6)	<0.001	51.1
13. Female sex	52 (70.3)	57 (28.1)	<0.001	41.5
Knowledge of signs				
Mean knowledge score of symptoms and signs	4.02±0.97	2.23±1.80	< 0.001	
1. Painless lump	70 (94.6)	96 (47.3)	<0.001	50.7
2. Painful lump	27 (36.5)	82 (40.4)	<0.001	33.8
3. Sore	66 (89.2)	84 (41.4)	<0.001	49.5
4. Bloody Secretion,	66 (89.2)	97 (47.7)	<0.001	38.8
5. Axillary lymphadenopathy,	68 (91.9)	82 (40.4)	<0.001	59.3
Knowledge of importance of early detection				
1. Saves life	72 (97.3)	153 (75.4)	<0.001	16.3
2. Slows progression of disease	37 (50.0)	38 (19.3)	<0.001	36.9
3. Reduces the risk of death	63 (85.1)	59 (29.1)	<0.001	27.8

mean score of 2.23, ($p < 0.001$). A painless lump in the breast was recognized as a possible sign of breast cancer by 94.6% of nurses and 47.3% in NHPs ($p < 0.001$). Lymph gland enlargement was recognised by 93% of nurses as compared to 41% of non-health professionals.

The Knowledge on Treatment (Table 2)

Most of the women agreed with the notion that early detection saves and improves the quality of life. Ninety-seven percent of the nurses knew that breast cancer could be treated if detected early as compared to 76% of the lay women, however, 46 (23%) the lay women did not know the implication of early detection when compared to 2.7% of the nurses. ($p < 0.001$). Thirty five subjects (47.3%) of the nurses and 40 (19%) of the lay women believed that early detection can slow the progression of the disease ($p < 0.001$). Drugs were recognised as a treatment option by 92.8% and 65.2% among the nurses and NHPs respectively. Most of the women, 95% of the nurses and 84% in NHPs, believed that surgery is the best form of therapy. Also, 43.5% and 40.2% of nurses and NHPs respectively believed strongly in prayer as a form of treatment of breast cancer.

Knowledge on Screening Modalities

Among the nurses 95.9% were aware of screening modalities for the detection of early breast cancer as compared to 70.4% of NHPs ($p < 0.001$, $\chi^2 20.2$, $df 2$). Among the nurses, 97%, 93.2%, 99% were aware of breast self examination, clinical breast examination and mammography as screening tools, when compared with 69%, 60.1% and 58.6% among NHPs respectively ($p < 0.001$).

The mean values were not significantly different when the NHPs were analyzed separately to study the significance of age, and education on knowledge of risk factors, symptoms and treatment of breast cancer.

Practice of Self Breast Examination and Mammography (Table 3)

On the practice of breast self examination, 40 (55.6%) of the nurses examined their breast on monthly basis as compared to 54 (34.6%) of NHPs, (p value = 0.0025). Among participants

Table 3: Practise of Self Breast Examination and Mammography

	Number (%)			
	Nurses		NHP Women	
	Yes	No	Yes	No
Do you practise self breast examination $\chi^2=7.84, df=2, P=0.0005$	42 (56.8)	32 (37.9)	77 (37.9)	126 (62.1)
Respondents above the age of 40 years who had had a mammogram. $P=0.289, \chi^2 = 1.123, df = 2$	8(22.9)	27(77.1)	16(15.1)	90 (85.0)

NHP, Non-health professional women

Table 4: Reasons for not Participating in Mammography Screening Programmes among Respondents

	Number (%)	
	Nurses	NHP Women
N	69	151
Expensive	43 (62.3)	74 (49.0)
Stigma	28 (40.6)	54 (35.8)
Fear of the disease	48 (69.6)	99 (65.6)
Husband permission	11 (15.9)	15 (9.9)
Lack of screening facilities	36 (52.2)	55 (36.4)
Lack of awareness	53 (76.8)	109 (72.2)
Absent government participation	49 (71.0)	58 (38.4)
Dependence on traditional medicine	31 (44.9)	48 (31.8)

above the age of 40 years, only 8(22.9%) of Nurses and 16(15.1%) of NHPs had undergone a mammographic examination ($p=0.289$). Reasons for low practise of mammographic examination included lack of awareness, absence of national screening programs, and lack of facilities for mammography, Tables 4.

DISCUSSION

Awareness and Knowledge of Risk Factors

It is a common belief that knowledge of a disease should affect health behaviour, and most researches in Africa usually equate poor breast health behaviour with inadequate knowledge.^{1,7,13,14} Most studies in Africa show that nurses have a good knowledge of breast cancer.⁶ In this study we evaluated their knowledge and compared their breast health behaviour with women who were not in health related occupations.

There was a high awareness of breast cancer in both groups. The first source of information for more than 65% of the women was the radio; this is in agreement with earlier findings emphasizing the role of the media in creating breast cancer awareness.^{2,3} The authors are of the opinion that misconceptions about breast disease can be handled in the media, and furthermore, information should be provided as much as possible in the local languages. The results of this study also confirm that nurses have a good knowledge of the risk factors for breast cancer, the knowledge of symptoms, screening methods and the advantages of early detection.¹⁵ The difference in the knowledge of risk factors of breast cancer, symptoms and therapy of the nurses compared to the general population was statistically significant. Most of the NHPs women did not associate being a woman, alcohol intake,

smoking, late menopause and age as predisposing factors to breast cancer. Age above forty years and the female sex are the most important predisposing factors to breast cancer.¹⁶ The authors suggest that public education campaigns tailored to give accurate information on identified areas in this study will increase the knowledge of the risk factors to breast cancer in our environment.

Breast Self Examination Practise

In this study we obtained low figures for BSE in both groups of women. Many studies have evaluated the practice of BSE by nurses, values range from 6–86%,^{4,6,17–21} we obtained a value of 56.8%. This implies poor practice of self breast examination by nurses in our environment, although it is significantly higher than that of the general population ($p<0.001$); partially confirming the theory that subjects with good knowledge tend to have better health behavior.^{22–24} Breast self examination (BSE) is perceived as a method of empowering women to take responsibility for their own health. It is promoted in Africa as a screening method for breast cancer, in the absence of mammography facilities. Evidence from meta-analyses and randomised controlled trials showed that BSE does not result in a reduction in the size or stage of tumours at diagnosis, or a decrease in mortality from breast cancer.^{25–27} In the absence of evidence that routine, systematic BSE reduces deaths from breast cancer, a number of international health organisations now recommend that women look and feel for breast changes as part of general body awareness and health care.²⁸ Some studies have shown that women who practice routine systematic self breast examination are more prone to unnecessary biopsies for benign lesions and may actually do more harm than good.²⁹ We do not discourage the performance of monthly breast self examination as a form of awareness of breast health, but it is not sufficient alone as a screening tool for diagnosis of early breast cancer.

Practise of Screening Mammography

This study reveals low rate of mammograms in both groups of women above the age of forty years, 22% and

16% in among nurses and NHP respectively ($p>0.05$). This implies that the higher level of knowledge among nurses did not result in a statistically significant difference in the rate of mammograms. The major reasons were lack of awareness, absence of a national program on breast cancer screening, fear and the high cost. In group B it can be argued that increasing their knowledge will improve their participation in screening mammograms, but the nurses' data show that good knowledge did not lead to higher rates of screening mammograms. In Nigeria, there is no national breast cancer screening program. In the South West of Nigeria, there are less than 20 mammogram machines for a population of over 20 million women, and this pattern is seen across the nation. Only very few centres have biopsy facilities and fewer still have pathologist that can give accurate histological diagnosis.

These are some of the reasons for the low utility of screening mammograms in our environment. We therefore submit, that increase in knowledge without adequate facilities and personnel can result in frustration and worsen the fear of the disease. The only proven method of decreasing the mortality from breast cancer is developing a national breast screening program based on screening mammograms and provision of facilities to confirm and treat lesions as soon as possible.

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