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# Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria

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A cross-sectional survey was conducted among nurses working in a general hospital in Lagos to determine their knowledge, attitude and practice regarding breast cancer. A self-administered questionnaire was used to investigate knowledge of symptoms, methods of diagnosis and use of cancer screening methods. Two hundred and four nurses out of 280 participated in the study (73% response rate). Knowledge about symptoms, methods of diagnosis and self-breast examination was generally very good. However, only 30% had had a clinical breast examination and 8% a mammogram within the past three years. Use of cancer screening methods was significantly associated with knowledge of the subject ( $p = 0.03$ ). Twenty-eight percent did not know how to estimate the risk of cancer and 61% believed they were not at risk. Nurses possess adequate knowledge about breast cancer but they need more information on cancer risk estimation.

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Breast cancer is now the most common cancer in women and the second leading cause of death in Nigeria (1). Among women, breast cancer emerged as the condition they were most concerned about out of a list of 11 comparable conditions, and 56% cited breast cancer as one of the top conditions they feared most (2).

A study of cancer awareness in Nigeria showed that only 32% knew that a breast lump was a warning sign of cancer, 58.5% were not aware of most warning signs, 9.8% knew of methods of detecting cancer and 50% did not know that cancer was curable when detected early (3). This low level of knowledge of warning signs and detection may be responsible for late presentation, with as many as 64% of patients presenting 6 months after the onset of symptoms (4). The disease has been reported to have an early onset among Nigerian women (4, 5).

It is clear that breast cancer is not well understood by women (3–5) and there is a need for information and enlightenment if patients are to present early in hospital. Nurses constitute one group of health workers who can provide accurate information on breast cancer to the public. This is because they are more frequently in contact with patients and their relations than other healthcare professionals, though at the present time, their role in Nigeria is limited to health education during surgery clinics.

Elsewhere, nurses have also play a crucial role in patient education on the subject (6) such that in some parts of the developed world, the specialist breastcare nurse has evolved (7). This role, which includes public advocacy, care giving, support and research, is required more in developing countries such as Nigeria, where there is a paucity of diagnostic facilities.

In view of the expanded roles nurses are expected to play in breastcare, it is important to assess nurses' knowledge of breast cancer. This study was conducted among nurses working in a large general hospital in Lagos, Nigeria, to determine their knowledge of risk factors, signs, methods of diagnosing breast cancer and use of cancer screening programmes.

## METHODS

### *Study design*

The study was conducted as a cross-sectional survey among nurses. The survey was designed to investigate the sociodemographic background of the respondents and their level of awareness, knowledge, attitudes on breast cancer and use of cancer screening programmes such as self-breast examination, clinical breast examination and mammography. The study was conducted in September 2000.

### Participants

All nurses working at the general hospital were invited to participate in the study. Informed consent of each participant was sought and obtained, each participant being required to sign the consent form on the questionnaire. Participants were assured of the confidentiality of their responses. Reminders about the study were sent twice to the nurses.

### Instrument

A self-administered questionnaire which had been validated and used in a similar study (8) and which consisted mainly of fixed-answer questions was used as the survey instrument. The questionnaire contained several alternatives, some of which were correct and some others not. The respondents had to choose between these alternatives and a gradient of responses was provided such as 'yes', 'no', 'not sure' and 'don't know'.

The questionnaire elicited information on the sociodemographic characteristics of the nurses, educational qualifications, work experience and if they had been involved in caring for patients who had breast cancer. Furthermore, the respondents were asked about symptoms of breast cancer, knowledge of known risk factors, methods of diagnosis, methods of treatment, practice of self-breast examination, and the use of breast cancer screening methods. They were also required to estimate the probability of their developing breast cancer in the future.

### Analysis

Each completed questionnaire was graded and scored on certain aspects such as knowledge of symptoms of breast cancer, method of diagnosis, self-breast examination and knowledge of risk factors. A maximum of 35 points could be obtained on the knowledge, attitude and practice (KAP) score. The scoring system was developed to provide a summary of the knowledge on the subject.

The marks were made up as follows: knowledge 25, attitudes 6 and practice 4 points. The performance of each participant was graded as good (75%), satisfactory (50–74%) and poor (< 50%).

Statistical analysis was performed with the Epiinfo v6.04b software. Frequency distributions of variables were produced. The t-test was calculated for quantitative variables where there were two groups and analysis of variance (F statistic) for three or more groups. The  $\chi^2$  test was used to compare qualitative variables and proportions. The level of significance was set at  $p < 0.05$ , all p-values were two sided.

## RESULTS

Out of 280 nurses working at the hospital at the time of the study, 204 returned their questionnaires, giving a response rate of 73%. A number of the nurses (30) were in

**Table 1**

*Sociodemographic characteristics of participants*

Variable	n (204) n (%)
Age (years)	
Mean $\pm$ SD	42.6 $\pm$ 8.3
Working experience (years)	
Mean $\pm$ SD	19.5 $\pm$ 7.5
Educational qualifications	
Nursing/midwifery diploma	187 (91.7)
University degree	6 (2.9)
Others	11 (5.4)
Worked in Surgical wards/clinics	190 (93.1)
Cared for breast cancer patients	184 (90.2)
Marital Status	
Single	7 (3.5)
Married	193 (94.6)
Divorced	4 (2.1)
Mean age at menarche (years)	
Mean $\pm$ SD	15.1 $\pm$ 1.9
Mean age at first birth (years)	
Mean $\pm$ SD	25.8 $\pm$ 8.4

the process of administrative transfer from the hospital during the period of the study. As the questionnaires were returned anonymously, it was not possible to compare some demographic variables of participants with those of non-responders.

Sociodemographic characteristics of participants are summarized in Table 1. Mean age of the respondents was 43 years and they had worked for an average of 20 years. Most had worked on surgical wards and been involved with the care of breast cancer patients.

Table 2 shows respondents' knowledge of symptoms and methods of diagnosis of breast cancer. Knowledge was generally above 60% though as many as 75% wrongly identified breast pain as a symptom of breast cancer and

**Table 2**

*Knowledge of symptoms and methods of diagnosis of breast cancer*

Variable	N (n = 204)	%
Symptoms		
Breast lump	191	93.6
Swollen axillary glands	163	79.9
Ulceration over breast	151	74.0
Bloody nipple discharge	137	67.2
Weight loss	128	62.7
Method of diagnosis		
Pathological examination of breast tissue	170	83.3
Self-breast examination	161	78.9
Mammography	149	73.0
Consultation with a specialist doctor	129	68.6
Ultrasound	44	21.6

**Table 3**  
*Knowledge about risk factors of breast cancer and self-breast examination*

Variable	N (n = 204)	%
<b>Risk factors</b>		
Positive family history of breast cancer	109	53.4
Bruising the breast is contributory to breast cancer	102	50.0
Working-class women are at greater risk of cancer	65	31.9
Smoking is associated with increased risk	52	25.5
Multi-parity confers lower risk	45	22.1
<b>How often should self-breast examination be undertaken by women</b>		
Daily	32	15.7
Weekly	31	15.2
Monthly	81	39.7
Undefined	51	25.0
Don't know	9	4.4
<b>Procedure for self-breast examination</b>		
Using finger pads	97	47.5
Monthly interval	83	40.7
Examination of axilla	148	72.5
Standing before a mirror	149	73.0
Resting head on a pillow during the examination	65	31.9

only one-fifth knew that ultrasound could be used to diagnose breast cancer.

Knowledge about risk factors associated with the disease and on self-breast examination is summarized in Table 3. Of the five risk factors, it was only in two that about half of the respondents were well informed. Only 56 respondents (27%) understood up to three or four of the risk factors while none knew all five.

No participant demographic variable such as age ( $p = 0.52$ ) or educational qualifications ( $p = 0.78$ ) was found to be associated with knowledge of the risk factors. The nurses were well informed about frequency of self-breast

examination and the steps in conducting the procedure. However, 51% wrongly identified the use of the fingertips to perform the examination.

Attitudes to breast cancer are shown on Table 4. The majority consider the disease as serious and would see a doctor within one month.

Breast cancer screening practices are reported in Table 5. Self-breast examination was most frequently done (89%), with 39% conducting this procedure at monthly intervals.

**Table 4**

*Attitudes to breast cancer and place of treatment*

Variable	N (n = 204)	%
Breast cancer is a serious disease	198	97.1
Breast cancer is curable	160	78.4
<b>Place of effective treatment</b>		
Orthodox doctor	186	91.2
Prayer houses	159	77.9
Traditional doctor	2	1.0
<b>Attitudes if respondent develops breast cancer</b>		
Be scared	97	47.5
See a doctor	180	88.2
Go to a prayer house	57	27.9
Use traditional medicine	2	1.0
Agree to a mastectomy	183	89.7
<b>Time period to see a doctor if you discover a breast lump</b>		
Within one month	188	92.2
1-3 months	2	1.0
Not bother at all	14	6.8

**Table 5**

*Breast cancer screening practices and cancer risk estimation*

Variable	N (n = 204)	%
<b>Frequency of self-breast examination:</b>		
Daily	22	10.8
Weekly	28	13.7
Monthly	80	39.2
Undefined	52	25.5
None	22	10.8
<b>Clinical breast examination</b>	59	28.9
Mammogram in the last 3 years	16	7.8
Positive family history of breast cancer	10	4.9
<b>Perception of cancer risk</b>		
Not at risk	125	61.3
Low risk	17	8.3
High risk	4	2.0
Don't know	58	28.4
<b>At risk status</b>		
None	38	18.6
1 factor	103	50.5
2 factors	58	28.4
3 factors	4	2.0
4 factors	1	0.5

A total of 130 (64%) participants made use of at least one method while only 13 (6%) made use of all three methods of screening. However, participants who were knowledgeable (50/155) underwent clinical breast examination more frequently than those who did not (8/49,  $p = 0.04$ ). This was not the case for self-breast examination or mammography. Use of all three methods was found to be more common among those who had a greater knowledge about breast cancer (49/155, compared with 9/49,  $p = 0.03$ ).

Other variables such as age ( $p = 0.55$ ), educational qualifications ( $p = 0.16$ ), attitudes ( $p = 0.61$ ), working in surgical wards ( $p = 0.57$ ), or menopausal status ( $p = 0.89$ ) were not found to influence the use of screening programmes.

Cancer risk assessment was done using four factors: age at menarche less than 13 years, age at first birth greater than 24 years, number of children less than 3, and family history of cancer. Though as many as 61% claimed to be at no extra risk, only 38 (19%) were found not to be at extra risk from all four factors. Over a quarter of respondents did not know how to estimate breast cancer risk.

A total of 163 respondents (79%) possessed adequate knowledge (over 50% of the scores). The mean score was 21.9, which represents 63% of the total points. The performance of participants was not found to be associated with age ( $p = 0.24$ ), educational level ( $p = 0.41$ ), duration of work experience ( $p = 0.49$ ), previous work in surgical wards and clinics ( $p = 0.47$ ), care of cancer patients ( $p = 0.67$ ) or menopausal status ( $p = 0.76$ ).

## DISCUSSION

Many studies on breast cancer in Nigeria have focused on clinical presentation by patients (4, 5). Though a few more recent reports have addressed issues of knowledge among healthy populations (3, 8), we have not found any dealing with knowledge, attitudes and practice among healthcare providers. Nevertheless, studies from developed countries show that attitudes and orientation of healthcare providers are important determinants of use of breast cancer screening programmes (9, 10).

The nurses in our study were very knowledgeable in several aspects of breast cancer. As expected, they were able to recognize all symptoms better than non-professionals (3, 8), though up to 75% incorrectly regarded breast pain as a symptom of breast cancer. Only 2 out of the 5 statements on breast cancer were correctly answered by half of the respondents, which is a much lower result than that of a similar study in the UK where 4 out of the 5 statements were correctly answered (11), indicating that the Nigerian nurses did not fully understand the risk factors.

Knowledge about how to conduct a self-breast examination was below average, as only 40% knew the correct

time interval in relation to the menstrual cycle when it should be done. This is lower than the 77% obtained among university nursing students in the USA, who correctly identified the recommended time (12).

Our respondents had a healthy attitude to breast cancer screening comparable with that of teachers in Nigeria (8), though a much higher proportion of nurses (89% compared with 49%) claimed that they would agree to have a mastectomy should they develop breast cancer. A smaller proportion of nurses said they would visit prayer houses or consult traditional healers than was found among teachers, suggesting that superstitious beliefs amongst nurses are not as strong as in other sectors of the Nigerian population. The outcome of this high level of knowledge and positive attitudes is the likelihood of early presentation to hospital among the participants, which is associated with a favourable prognosis (13).

The use of the three cancer screening programmes—self-breast examination (SBE), clinical breast examination (CBE) and mammography—was widely varied. The proportion practising SBE (39%) at the recommended period showed good correlation with those that knew when to carry out the procedure (40%,  $r = 0.46$ ). The proportion of our respondents who used any or all of the cancer screening methods is much lower than the rates reported from studies in the USA (14–17) and Britain (18). We also found that a higher knowledge was significantly associated with the use of all three methods, suggesting that nurses who have more knowledge also put it into practise.

Furthermore, results of randomized clinical trials show that mammography significantly reduces mortality from breast cancer in women over 50 years of age but the benefit is smaller and there may be associated injury in those under 40 years (19). At the present time, many countries in the developed world now routinely recommend mammograms while a few others such as the USA and Canada recommend all three as screening programmes (20). On the basis of these recommendations, at least one-quarter of our participants who are 50 years and above who should have had a mammogram, are not compliant. Nevertheless, given the lower age incidence of breast cancer in Nigeria (1, 5), mammography is likely to miss out a significant proportion of women and its benefit is therefore more limited.

Assessment of cancer risk by the nurses in this study was very poor as only 10% knew they were at some extra risk; 3 out of 10 did not know how to estimate cancer risk and 61% erroneously believed they were not at any risk at all. However, we observed that only 19% were found not to be at extra risk when four important factors were considered (21, 22). The proportion of those who knew they were at some risk is similar what was found among Australian women, at 5% (23).

The overall performance of our study participants is

commendable, as 80% of them performed satisfactorily. This is, as expected, much higher than the 25% obtained among teachers (8) using the same study instruments.

We conclude that though there are gaps in their knowledge, the nurses in this study are well informed about breast cancer and can play an expanded role in breast cancer care. This expanded role will be similar to that currently being undertaken in the developed world (6, 7).

We recommend that institutional frameworks and policy guidelines be developed to empower nurses to play an expanded role in breast cancer care. Continuous education and training needs to be provided, especially concerning risk factors and breast cancer risk estimation. Nurses should emphasize the importance of self-breast examination and clinical breast examination to all women.

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