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*Full Length Research Paper*

## **Breast and Cervical Cancers Awareness and Screening Practices among Rural Women in Ona-ara Local Government Area, Ibadan, Nigeria**

**\*Ajayi I.O<sup>1,3</sup>, Onibokun A.C<sup>2,3</sup>, Soyannwo O.A<sup>3</sup>**

<sup>1</sup>*Department of Epidemiology and Medical statistics, College of Medicine, University of Ibadan*

<sup>2</sup>*Department of Nursing, College of Medicine, University of Ibadan*

<sup>3</sup>*Centre for Palliative Care, Nigeria, Institute of Medical Research and Advanced Training, College of Medicine, University of Ibadan*

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### **ABSTRACT**

The level of awareness and screening practices for breast and cervical cancers among rural women was investigated. Three of the six rural wards in Ona-ara LGA were selected by balloting and the three largest communities in each of the wards were purposively selected for the study. Structured interview was conducted among 276 consenting women aged  $\geq 18$  years in the households. Data were analysed using descriptive statistics and Chi-square test. Mean age of respondents was  $36.5 \pm 12.6$  years. Only 52 (18.8%) and 11 (4.0%) mentioned they knew something about breast and cervical cancers respectively. Knowledge of risk factors, cause and screening methods was poor irrespective of demographics. Only 15/52 (28.8%) and 3/52 (5.8%) who knew something about breast cancer mentioned clinical and Breast Self-Examination (BSE) respectively as screening methods for breast cancer. Half, 28/52 (53.8%) have ever practiced BSE and 9 (17.3%) had clinical examination of the breast which was done as part of antenatal care or physical examination. The 24 respondents who did not examine their breasts mentioned they did not know they should (54.2%), don't have problems with their breasts (54.3%), don't know how to do it (37.5%) and think health workers should do it (33.3%). Only 4/11 (36.4%) of those who knew something about cervical cancer mentioned vaginal examination for cervical cancer screening and only one (0.1%) respondent mentioned Pap smear. The poor level of awareness and screening practices for breast and cervical cancers among women in these rural communities emphasizes the need for community-based educational campaigns and provision of screening facilities in rural areas. .

**Keywords:** Pap smear, Breast self-examination, Rural women, Cancer, Health education.

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### **INTRODUCTION**

Cancers of the breast and cervix are the two most common cancers in women and their control especially in developing countries has been a major concern. Worldwide, an estimated 1.4 million new cases and

458,400 deaths of breast cancer was reported in 2008 while for cervical cancer the estimates were 529,800 new cases and 274,883 deaths (GLOBOCAN, 2008). In Nigeria age standardized incidence of breast cancer in 2008 was estimated to be 36.3 - 50.2 per 100,000 while it was  $\geq 32.5$  per 100,000 for cervical cancer

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\*Address for correspondence:

Email: [ikeajayi2003@yahoo.com](mailto:ikeajayi2003@yahoo.com)

Tel: +234 -8023268431

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(GLOBOCAN, 2008). The annual age-standardised incidence of cervical cancer in Ibadan has been projected to be 22914 in 2025 (Parkin, *et al* 2003; WHO/ICO, 2010).

The overall burden of cancer of the breast and cervix is shifting substantially to vulnerable populations in ill-prepared developing countries. Several subpopulations, such as rural women, remain relatively under screened (Ahmad, *et al* 2001). Poor screening practices have also been identified as major contributory factor to late presentation of these diseases in developing and rural/low-income earning women in developed countries (Pillay, 2002; (Okobia, *et al* 2006)). This is important for Nigeria, which has 52% of the her 40.43 million women ages 15 years and older living in rural areas and at risk of developing cervical and breast cancers. Screening services are limited mostly to urban facilities and there is no established national screening program for the two cancers (Okobia, *et al* 2006).

Limited studies have been reported on screening practices among rural dwellers especially in Nigeria. This study therefore set out to determine the level of awareness and screening practice for breast and cervical cancers among women in selected rural communities in Nigeria.

## MATERIALS AND METHODS

### Subjects and Methods

*Setting:* This study was carried out in three rural wards in Ona-ara Local Government Area (LGA), Ibadan, Nigeria. The people are mostly peasant farmers and traders from the Yoruba ethnic group. The LGA has a Primary Health Care (PHC) /maternity centres in each ward manned by nurse/midwives, community health extension workers and dispensers. Other health care providers in the communities are patent medicine sellers and traditional healers.

*Study design and subject selection :* This study adopted cross-sectional design. Three of the six rural wards in Ona-ara LGA were selected by balloting and the three largest communities in each of the wards were purposively selected for the study. Trained research assistants visited all the households starting from a pre-determined point for all study communities which was the traditional head's house and going clockwise to administer a semi-structured pre-tested questionnaire which was translated into Yoruba (local language) to all consenting women aged 18 years and above in each household. Where we had more than one eligible in a household, one was selected by balloting and

interviewed. The questionnaire consisted questions on personal profile, knowledge of early signs and symptoms, knowledge of screening methods and practice of screening for cervical and breast cancer. Ayres spatula was shown to the respondents during interview to ascertain their understanding of Pap smear.

*Data Analysis:* Data analysis was carried out using STATA version 12. Means, standard deviation, percentages and proportions were used to summarise the data as appropriate. Chi-square test were used to assess association between awareness, risk, screening methods, screening practices, and socio-demographic characteristics and logistic regression was used to determine the strength of association at  $p \leq 0.05$ . Overall knowledge was based on response to questions on symptoms and signs, persons at risk and screening methods and each correct response was scored 1. Maximum obtainable score for knowledge on breast cancer was 12 and a score  $\geq 6$  was judge to be good while  $< 6$  was poor. For knowledge on cervical cancer the maximum score obtainable was 5 and a score  $> 2$  was judged to be good will 2 or less was poor.

## RESULTS

### Socio-demographic characteristics

Mean age of the respondents was  $36.5 \pm 12.6$  years. More than half of the women were aged 18-35 years. Majority, 224 (81.2%) were married, 118 (42.8%) had primary education and 152 (55.1%) were traders. (Table 1)

### Awareness, knowledge, screening methods and practice

Many, 110 (69.9%) mentioned they have heard about cancer in general. Only 52 (18.8%) and 11 (4.0%) mentioned they knew something about breast and cervical cancers, respectively. Seven (2.5%) mentioned they have history of cancer in a female family member comprising three (42.9%) aunts, one (14.3%) sister and three (42.9%) other relations. Six (85.7%) of these identified female family members had breast cancer and one (14.3%) had cervical cancer. Most, 215 (77.9%) did not know the relationship between cancer and familial/hereditary factor. Awareness on cancer was higher among the educated (OR=3.5, CI=2.0-5.9), the singles (OR= 1.3, CI=0.5-3.8) and Christians (OR=2.4, CI=1.5-3.9).

Results on awareness of breast cancer risk factors, screening methods and practices as well as overall knowledge was based on responses of the 52 respondents who mentioned they knew something about cancer of the breast. The most common source of

awareness on breast cancer was the radio/television mentioned by 23(44.2%). Only 4 (7.7%) knew that women greater than 50 years are more likely to have breast cancer. None of the respondents thought that women who have first degree relations with cancer of the breast are more likely to have the disease [Table 2]. Three (5.8%) respondents thought they may possibly have breast cancer in their lifetime. No significant association was found between demographic characteristics and respondents' awareness on risk factors for breast cancer ( $p>0.05$ ).

**Table 1**

Socio-demographic Characteristics of the Respondents [N=276]

Characteristics	Frequency	Percentage
<b>Age group (years)</b>		
18-25	77	27.9
26-35	76	25.5
36-45	52	18.8
46-55	51	18.5
56-85	20	7.2
<b>Marital status</b>		
Married	224	87.2
Widowed	35	12.7
Single	15	5.4
Divorced	2	0.7
<b>Level of education</b>		
None	105	38.0
Primary	118	42.8
Secondary	53	19.2
<b>Occupation</b>		
Unemployed	28	10.1
Trading	152	55.1
Farming	78	28.3
Apprentice	8	2.9
Others	10	3.6
<b>Religion</b>		
Islam	151	54.7
Christianity	118	42.8
Traditional	1	0.4
Not stated	6	2.2

## DISCUSSION

Awareness on breast and cervical cancers, their risk factors and screening methods was poor among rural women in this study. This was worse with cervical cancer. The relatively low level of education of the rural dwellers could be partly responsible for these findings. Related past studies demonstrated that higher level of education and younger age groups are positively associated with better knowledge of these diseases (Ajayi, *et al* 1999; Ajayi, 2000; Pillay, 2002; Coleman, *et*

*al* 2003; Oluwatosin and Oladepo, 2006). However, only higher education was demonstrated to be so in this study. In this study, practice of screening among the rural women was also poor. This may further increase risk and contribute to late presentation. The poor knowledge of the association of cancer especially breast cancer with family history precludes practice of screening. Individuals who perceive being at risk would likely seek screening services more than those who do not and who have poor knowledge.

**Table 2.**

Respondents' Knowledge of Breast Cancer [N=52]

Knowledge Category	Frequency	Percentage
<b>Cause</b>		
Microorganism	8	15.4
Poor breast hygiene	7	13.5
Lump in the breast	2	3.8
Keeping money in breast	2	3.8
Others (family planning, spiritual attack etc)	4	7.7
Don't know	29	55.8
<b>Women at risk</b>		
Any woman irrespective of age		
Women 50 years and above	7	13.5
Women less than 50 years	4	7.7
Others (prostitute, smokers etc)	1	1.9
Don't know	3	5.8
<b>Symptoms and signs</b>		
Lump in the breast	14	26.9
Breast swelling/enlargement	6	11.5
Ulceration of the breast	4	7.7
Bloody nipple discharge	2	3.8
Nausea	1	1.9
Nipple retraction	1	1.9
<b>Is breast cancer contagious?</b>		
Yes	10	19.2
No	42	70.8
<b>Can breast cancer be cured if detected early?</b>		
Yes	35	67.3
No	17	37.7
<b>Overall Knowledge score for breast cancer [Maximum obtainable = 12]</b>		
0	3	5.8
1	14	26.9
2	21	40.4
3	12	23.1
4	2	3.9

Contributing to the poor practice of screening is the attitude of Nigerians to periodic medical check-up which has been shown to be poor (Ajayi, 2001). In our study, many did not know they should practice screening and

some felt they need not do so because they did not have any problem with their breasts. Perception of health status as being good has been shown to prevent adoption of preventive measures (Ayinde, *et al* 2004).

**Table 3.**  
Knowledge of Breast Cancer Screening and Practice

Parameter	Frequency	%
<b>Screening method N=52</b>		
Clinical examination	15	28.9
SBE	3	5.8
X-ray	2	3.8
Ultrasound	2	3.8
Others	2	3.8
Don't know	28	53.9
<b>Examined breast N=52</b>		
Yes	28	53.8
No	24	46.2
<b>How often breast was examined</b>		
More than once weekly	16	57.1
Weekly	5	17.9
Occasional	2	7.1
Others	5	17.9
<b>Source of knowledge of method used (N=28)</b>		
Nurse	11	39.3
Nurse	5	17.9
Self	3	10.7
Doctor	2	7.1
Book	2	7.1
Television	5	17.9
Others (Mother, friend etc)		
<b>Reasons for not examining breast (N=24)*</b>		
Don't know I should	13	54.2
Don't have problem with my breast	13	54.2
Don't know how to do it	9	37.5
Health professionals should do it	8	33.3
Don't have family history	1	4.2
Don't think I will find any abnormality	1	4.2
Don't remember to do it	1	4.2
Just didn't do it	3	12.5
Not stated		

**Note:** \* = multiple responses

Practice of BSE in this study is just about average and corroborates the proportion of 0.43 reported by an earlier study in an urban poor community in the country (Ajayi, *et al* 1999). However, it is better than the 0.064 reported in a rural setting in Ibadan by Oluwatosin and Oladepo, 2006. This difference could be related to the definition of BSE used in this study which was loose compared with the strict definition based on adherence to the standard BSE technique used in the earlier study. This constitutes a limitation in this study as the correctness of the BSE by participants was not ascertained. However, going by the stated frequency of practice they may not

have practiced BSE as recommended. None mentioned BSE was carried out monthly. The reasons for not practicing BSE in this study further alluded to the low awareness on screening reported especially among rural dwellers in developing countries (Pillay, 2002).

The strongest barriers to screening in rural population have been reported to include education, attitudes, religious beliefs (Ajayi, 2000), health care access (Mitchell, *et al* 2002) and attitude of physicians to cancer screening and motivation by the community nurses (Arulogun, *et al* 2012). Investigations by research bodies also revealed that very few hospitals in developing countries operate screening programs for cervical and breast cancers. Screening services at PHC facilities in rural areas and many of the urban centres in Nigeria are limited to routine urinalysis and blood pressure measurement in most instances and this partly explains why none of the respondents in this study have had screening for cervical cancer and just about a quarter had CBE while none had mammography. The perception of respondents that health workers are supposed to advise on screening and the fact that just a few participants in this study and other past studies got to know about these diseases and their screening methods from a health professional (Oluwatosin and Oladepo, 2006; Matatiele and Van den Heever, 2008) underscores the perceived role of physicians and nurses in cancer screening. However, the poor screening practices among health professionals reported in past studies in Nigeria is a concern (Oluwatosin and Oladepo, 2006; Odusanya and Tayo, 2001) which needs to be addressed alongside improving health education to women. A summary report of studies on HPV and related cancers spanning 1998 to 2008 in Nigeria (WHO/ICO, 2010) reported cervical cancer screening coverage of 6.8% -20.8% among health professionals (WHO/ICO, 2010; Ayinde, *et al* 2004) and other studies reported a few had mammography (Akhigbe and Omumu, 2009). This could be responsible for the non-offering of screening services to women since they do not practice it. Another contributory factor is the poor availability of screening tools and poor skills of the health workers.

The non-provision of outreach services especially with regards to health education by health workers to the community could be contributory to the low awareness and low demand for screening. It has been observed that PHC workers who are closest to the community have minimal contact with women in the community. Meanwhile, lifestyles which stand to increase risk of breast and cervical cancers are creeping into the society including rural dwellers and life expectancy is increasing. It is therefore crucial to increase women's awareness of their risk and the need for early detection

and treatment. Health education by health workers and use of peer education stand to improve level of awareness on screening among these rural dwellers (Adebamowo *et al* 2003; Ogunbode and Ayinde, 2005).

This study was carried out in few rural communities hence cannot be generalized to the entire population. However, it has provided evidence that screening for early detection of cancer of the breast and cervix in the rural areas is suboptimal. This evidence-based information constitutes an advocacy tool for policy making and development of appropriate intervention. It is also likely that the prevalence of the screening practice may be lower than reported if compliance to standard technique were to be considered.

In conclusion, this study provided further evidence that rural women lack appropriate information about breast and cervical cancers and their early detection. Primary health care workers need to improve on their outreach services and train peers to cascade training to the community women.

#### Authors' contributions

All the three authors [IOA, AO and OS] contributed to the conception and design of the study. IOA was major in the conceptualization of the study. IOA and AO contributed to the development of the protocol and were instrumental in data collection and supervision of research assistants. IOA undertook the analysis. IOA and AO produced the draft of the manuscripts and it was reviewed by IOA, AO and OS several times over till the final draft was produced. All authors read and approved the final manuscript.

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