Awareness of Breast and Cervical Cancer among Women in the Informal Sector in Nigeria

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Abstract

BACKGROUND: There are no general consensuses on why the lifetime risk of dying from breast and cervical cancer in African is several times higher than that of developed countries. However, a notable window of opportunity for prevention and treatment are often wasted where there are little or no awareness and low level of screening.

AIM: To specifically highlight the awareness, knowledge and determinants of participation in the screening exercise for possible prevention or control of the diseases. To also provide insights on the development of contextual and relevant timely detection for effective early interventions.

METHODS: A cross-sectional study was conducted in southern and northern geopolitical zones of Nigeria. The respondents, which consisted of 1,023 women aged 15-49 years, completed a 116-item questionnaire assessing the correlation between cancer awareness and participation in screening. Nineteen, In-depth interviews were also conducted for this study. The outcome measured included awareness of breast and cervical cancer, how it can be prevented or detected, and the availability and actual participation in screening exercises.

RESULTS: While women are familiar with breast cancer, little is known about cervical cancer, and the awareness of the former is not correlated with participation in screening. The lack of enthusiasm to seek screening exercise is rooted in three key factors: lack of specific information, belief, economic and inadequate screening facilities.

CONCLUSION: The study thus recommends that policies and programs aimed at the breast and cervical cancers awareness and early intervention should address the underlying problems.

Introduction

The most important cause of premature mortality among women in the world is breast and cervical cancer [1], [2], [3] making both cancers a major health problem for the women and the nations. The incidence, mortality, and survival rates for breast and cervical cancers vary across the world [4]. Globally, the incidence and mortality of breast cancer have increased over the past three decades, with an estimated annual rate of 3.1% and 1.8% respectively, and an estimated annual rate of 0.6% and 0.46% respectively over the same period, respectively [5].

In Nigeria, cervical and breast cancer are major public health challenges. Incidence of cancer in Nigeria from population-based cancer registries covering 2 years 2009-2010 reported a standardised

incidence rate of breast cancer (SIR) in Ibadan, a population-based cancer registry (IBCR) of 52.0 per 100,000 and a population-based cancer registry (ABCR) of 64.6 per 100,000. The IBCR also reported a standardised incident rate of cervical cancer age (SIR) of 36.0 per 100,000 and 30.3 per 100,000 in the ABCR [3], [5].

Research has shown that the incidence of both breast and cervical cancer in developed countries with lower mortality rates is higher compared to lower death rates in developing countries [6], [7], [8]. This is due, as stated by [6], [9] to the availability of early cancer screening programs that detect early invasive cancer, some of which would have progressed to the late stage of the disease, reducing cancer mortality in those countries. This means women have poor overall outcomes in developing countries compared to their counterpart in

developed countries due to late detection and diagnosis [6], [7], [8]. This is one of the major reasons while out of 78,897 women estimated diagnoses of cervical cancer in Africa, the risk of death from cancer in African women is 2 times higher than in developed countries, and 61,671 dies from the disease annually [10].

One report suggested that the incidence of cervical cancer remained largely stable over time, possibly due to poor screening coverage in Nigeria [4]. The presentation of the advanced stage of the disease by most women when cure is unrealizable pose a significant management problem for the gynaecologists and may be responsible for higher incidence and lower survival rate in both cancers [3], [9], [11]. Low screening participation has been attributed to many factors, including lack of knowledge about the benefits of early detection, and the screening uptake will increase with improved knowledge. Other factors are; low socioeconomic status, the barrier to effective strategies for reaching informal sector women [7], [12]. All of these are partly attributable to the lack of established national breast and cervical screening programmers and the lack of culturally sensitive, customised health promotion campaigns, [13], [14].

For instance, cervical screening has been highly successful in the developed world. Since the introduction of organised cervical screening in the United States in the 1960s, in 2007, cervical cancer was ranked 12th in women's cancer deaths, which was the number one killer of women. While cervical cancer accounts for 7% of all malignancies in the U.S. and most developed countries, it accounts for 24% of all such cancers in developing countries, with 78% of all cases in resource-poor countries worldwide [11], [15]. This disparity was attributed primarily to the lack of screening and treatment of pre-cancer lesions [11], [15].

There is a risk that every woman will develop breast and cervical cancer. There are various risk factors that can affect the susceptibility of each woman. Early menarche, late menopause, late childbirth, oral contraceptives and hormonal therapy for menopause increase the risk of breast cancer, alcohol intake; also, research has indicated the impact of diet and environmental factors. Also, the main risk factors contributory to Human Papillomavirus (HPV) that causes cervical cancer in Nigeria are; being unmarried, illiterate, being positive for anti-Herpes Simplex Virus (HSV) antibodies, tobacco use, parity, multiple sex partners of women and their spouses' extramarital affairs [16]. Early participation in screening services is a major intervention for prompt and appropriate management of women with abnormalities [17].

Many factors have been identified from various studies as a barrier to screening in a variety of populations. Not much has been done to study awareness and practice of women in the informal sector, although the generalisation may be available. It would be assumed that women in the informal sector are less able to compete on the labour, capital and product markets because they have relatively low levels of education and skills, and socio-cultural, political and economic factors restrict women's time and mobility. Therefore, this study investigates Breast and cervical cancers awareness and practice in a sample of women in the informal sector in Nigeria. Women in the informal sector involve women operating a business without binding official regulations, as well as those operating under official regulations that do not compel official returns on their operations or production process. Activities are ranging from petty trading and personal service providers [8].

Material and Methods

Study Population

A qualitative cross-sectional study was conducted between January and February 2015 in southern and northern geopolitical zones of Nigeria to examine cancer awareness and practice among women in the informal sector in Nigeria to promote strategies to reduce the incidence of cancer. The study population included a total number of 1,023 women age 15-49 living in southern and northern geopolitical zones of Nigeria. The study targeted women in the informal sector in both rural and urban setting. The participants were examined based on prepared questions on demographics, cervical and breast cancer awareness, attitudes related to cancer's risk factors, awareness and actual practising of Breast examination and pap smear test access to the screening exercise. The research adopted both quantitative and qualitative approaches. The quantitative aspect employed a structured face-to-face interview. Regarding the sampling method, the six-geopolitical zones of Nigeria were divided into two (Southern and Northern) excluding the Federal Capital Territory. Two states from each region were randomly chosen, and in each state, two local government areas were selected.

The qualitative segment feature in-depth interview. These involved cancer survivors and medical practitioners. The assistance of medical and paramedical personnel was sought in locating and seeking of permission of some of their patients who survive cancer challenges. In the beginning, we recruited field assistants in each state to facilitate efficient and effectiveness of the fieldwork. Workshops were organised to inform and train the field assistance about the objectives, the content of the questionnaire and the procedure. Also, the respondents were informed about the purpose of the study, and their

consent was obtained before proceeding to interview them.

Measure

This study adopted the UK Cancer Awareness Measure (CAM) developed to reliably assess awareness of cancers [18]. The questionnaire was administered in the language understood by each respondent.

Information assessing socio-demographic characteristics of the respondents includes age, religious affiliation, formal education, their marital status, occupation, and whether they have children. Participants were also asked whether they have heard about cancer generally and specifically, awareness of breast and cervical cancer. Also, participants were asked how confident are they likely to identifying the breast and cervical cancer's symptom, whether they are aware that they are preventable and how they can be prevented. Information about practice included Self Breast examination, awareness of mammogram and breast screening using mammogram. Cervical cancer practice was measured by the vaccine for prevention Pap smear screening exercise and whether they have participated in PAP smear screening exercise.

Statistical analyses

Sample characterisation was based on frequencies and percentages. Descriptive analyses of demographic characteristics and awareness of cancer's separately for breast, and cervical cancers were conducted. Awareness of screening programmes for both types of cancer about actual participation in the screening exercise and whether the respondents will be able to notice cancer symptoms was also examined. Finally, the chi-square test was used to examine the possibility of awareness leading to screening exercise participation. Using the interview guide, a thorough interview was conducted. All interviews recorded and transcribed in English electronically. The aspect covered in the interview included the beliefs and perceptions of the respondents about cancer, as well as barriers to participation in screening exercise and actual cancer experience. The themes and categories emerging from the data were investigated. In some instances, responses to relevant issues and themes were cited verbatim to illustrate responses.

Results

Table 1 displays selected socio-demographic characteristics of the sample respondents. The computed mean age of the respondents is 33.6 years.

The age distribution represents a normal curve distribution starting at 8.8% (age group < 20), reached the peak at age group 30-39 (33.7%) and finally declined at age group 40 and above (29.6%). Most participants (59.7%) reside in urban centres. The proportion ever is more than three-quarters of the population. This is distributed as married and living with a partner were (62.3%), separated/divorced (6.3%), the divorced (3.7%) while the singles were 27.8% (Table 1). The parity level is very high with only 2.5% at zero parity while the rest have had at least a child. The proportion of women who have had up to five children and above is 12.9% (Table 1).

Table 1: Background information about the Respondents

Locations	Frequency	Per cent	Children ever born (CEB)	Frequency	Per cent
Kwara State	259	25.3	Zero Parity	18	2.5
Ogun State	764	74.7	1-2 children	281	38.6
Total	1023	100.0	3-4 Children	335	46.0
Place of Residence			5 Children & above	94	12.9
Rural	412	40.3	Total	728	100.0
Urban	611	59.7	Educational Attainment		
Total	1023	100.0	No Schooling	80	7.8
Age Group			Primary Education	347	33.9
Less than 20 years	90	8.8	Secondary School	432	42.2
20-29 years	285	27.9	Tertiary institution	164	16.0
30-39 years	345	33.7	Total	1023	100.0
40 years & above	303	29.6			
Total	1023	100.0	Working Status		
Mean age = 33.6 years			Employees	204	19.9
Marital Status			Self-Employed	596	58.3
Single/Never Married	284	27.8	Unemployed	175	17.1
Married/LWP	637	62.3	Full-Time Housewife	48	4.7
Separated/Divorced	64	6.3	Total	1023	100.0
Widowed	38	3.7	Occupation		
Total	1023	100.0	Manufacturing	14	1.4
Religious Affiliation			Trading/Distribution	443	43.3
Christianity	634	62.0	Farming	271	26.5
Islam	356	34.8	Education	89	8.7
Others	33	3.2	Services	206	20.1
Total	1023	100.0	Total	1023	100.0

Source: Field Survey, 2015.

Breast and Cervical Cancer Awareness and Practices

The level of awareness of both breast and cervical cancers can be assumed to be generally high among the studied population. While 90.9% indicated awareness on breast cancer, relatively low value was obtained for cervical cancer (32.7%) as shown in Table 2. In the case of breast cancer, 55.4% of the respondents do not practice breast examination, and 79.6% were not aware of the mammogram test (Table 2). Those who have ever participated in mammogram were estimated to be 5.8%. Cervical cancer screening and vaccination were less popular among women. Awareness of Pap smear test was (11.7%), and vaccination against cervical cancer was (11.8%), participation in pap smear screening and ever vaccinated were just (7.8%) and (3.2%) respectively (Table 2).

The Chi-square analysis shows a positive association between awareness of breast cancer and participation in mammogram test (sig. = 0 .014). Notwithstanding that the level of awareness is very low (6.4%), the result indicated that every woman who had participated in mammogram had pre-knowledge

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of the disease, as shown in Table 3. However, 93.6% of those who have heard about the disease have not participated in the test (Table 3). This could account for the weal level of contingency coefficient (0.078).

Table 2: Breast and Cervical Cancer Awareness and Practices

Breast Cancer Awareness			Cervical Cancer Awareness		
Ever Heard of Cancer	Frequency	Per cent	Ever Heard about Cervical Cancer	Frequency	Per cent
Yes	942	92.1	Yes	334	32.7
No	81	7.9	No	686	67.3
Total	1023	100.0	Total	1020	100.0
Ever Heard about Breast Cancer			Heard about Pap Smear Screening		
Yes	930	90.9	Yes	114	11.7
No	93	9.1	No	861	88.3
Total	1023	100.0	Total	975	100.0
Ever Done Self Breast Examination			Ever Participated in Pap Smear Screening		
Yes	452	44.6	Yes	72	7.8
No	561	55.4	No	857	92.2
Total	1013	100.0	Total	929	100.0
Know Mammogram			Aware of Vaccination against Cervical Cancer		
Yes	206	20.4	Yes	112	11.8
No	802	79.6	No	841	88.2
Total	1008	100.0	Total	953	100.0
Ever Done Mammogram			Ever Vaccinated		
Yes	57	5.8	Yes	30	3.2
No	930	94.2	No	902	96.8
Total	987	100.0	Total	932	100.0
Confident against Cervical Cancer Infection	Frequency	Percent	Confident against Breast Cancer Infection	Frequency	Percent
Very Confident	90	8.8	Very Confident	122	11.9
Fairly Confident	131	12.8			
			Fairly Confident	146	14.3
No Confidence	802	78.4	No Confidence	802	78.4
Total	1023	100.0	Total	1023	100.0

Source: 2015 National Breast and Cervical Cancer Survey.

The correlations though weak, but with more awareness and information, the association can be improved. This is significant in the sense that study [9] argues that knowledge and certain demographic variables can serve as important modifying factors that would awaken awareness of the life threat posed by cancer and facilitate the role that perception can play in influencing the likelihood of screening.

Table 3: Relationship between awareness of Breast Cancer and participation in Mammogram Test

	Ever Done Mammogram		
Ever Heard about Breast Cancer	Yes	No	Total
Yes	57 (6.4%)	840 (93.6%)	897 (100.0%)
No	-	90 (94.2%)	90 (1000.0%)
Total	57 (5.8%)	930 (94.2%)	987 (100.0%)
Pearson Chi-Square = 6.070			
Contingency Coefficient = 0.078		Approx. Sig =0 .014	
Pearson's R = 0.078		Approx. Sig= 0.014	

Source: 2015 National Breast and Cervical Cancer Survey.

A similar analysis was conducted to confirm the relationship that exists between knowledge about cervical cancer and participation in Pap smear screening. The result obtained from the Chi-square analysis shows a positive association between awareness of cervical cancer and participation in the screening with both correlations statistics showing a similar result (0.233). Though the level of significance is high (Approx. Sig = 0 .000), the contingency coefficient is only 22.7%, indicating a weaker relationship (Table 4).

Table 4: Relationship between knowledge about Cervical Cancer and participation in Pap Smear Screening

	Ever Participated in Pap Smear Screening		
Ever Heard about Cervical Cancer	Yes	No	Total
Yes	52 (16.5%)	264 (83.5%)	316 (100.0%)
No	20 (3.3%)	591 (96.7%)	611 (100.0%)
Total	72 (7.8)	855 (92.2)	927 (100.0)
Pearson Chi-Square = 50.524		Approx. Sig = 0 .000	
Contingency Coefficient = 0.227		Approx. Sig = 0 .000	
Pearson's R = 0.233		Approx. Sig = 0 .000	
Spearman Correlation = 0.233		Approx. Sig = 0 .000	

Source: 2015 National Breast and Cervical Cancer Survey.

Discussion

Breast and cervical cancer awareness among women in informal sectors were investigated. This section highlights the findings from this study. Variables associated with awareness and practice in breast and cervical cancers were considered: awareness of breast and cervical cancer, breast self-examination, mammogram screening, awareness of Pap smear screening and vaccine against cervical cancer.

This study found that, while women are familiar with breast cancer, little is known about cervical cancer. However, awareness with breast cancer does not lead to being mindful of it as to know what to do or how to go about the screening exercise. As shown by the excerpt from the in-depth interview with the breast cancer survivor, below, some that have participated in the screening exercise for breast or cervical cancer, did that by chance, not as planned exercise. A 43 older woman from Abeokuta in Ogun State Nigeria narrated her experiences with breast cancer as thus:

"I had a quarrel with my husband because of his infidelity, and he stopped providing for the home keep neither for the children school fees. This is what led me to want to do family planning. It was during the necessary routine checkup that the nurse discovered an abnormal lump in my breast, she then recommended me for further examination, and that was how I started battling for survival".

The findings of this present study agree with earlier findings [9] also talk about the low level of awareness and screening among women in pokie Ogun state. Authors found that women in Egypt would not god to doctor unless they were ill as a barrier to cancer screening [19]. The lack of enthusiasm to seek screening exercise is rooted in three key factors: lack of specific information, belief, economic and inadequate screening facilities.

Women lack specific information on breast and cervical cancer. Seventy-eight per cent (78%) of

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the respondent cannot say confidently the likely causes and symptoms of both breast and cervical cancer. In their study of Arab women, [12] reported that only 5% of their respondent had a good general knowledge of breast cancer. As stated by [9], either the respondents are unaware of the symptoms because they do not have the condition or because they do, but are unable to link the symptoms with the condition. Achieving a decision to seek medical care or prevention starts with the ability to recognise the symptoms and signs correctly. Failure to recognise the symptoms correctly and promptly could act as a barrier to screening exercise or as a source of delay [1]. Some of the participants were asking: "what do I do, how can I be screened? Where ….?

Some authors believe that socio-cultural elements shape the behavioural characteristics of individuals within their environment [12]. And as the Health belief model suggested, variations in utilisation behaviour can be accounted for by beliefs about the individual's view of their vulnerability to disease. Religion and traditional beliefs can be a challenge to the screening exercise. For instance, participant see cancer as a death sentence, and when the investigator asked if they are aware of the screening exercises and whether they have participated in one, immediately, they screamed 'God forbid, it can never happen to me'. Some beliefs that it is not normal and not good for one to go for screening, as described by A 35-year-old mother of 2 in Kwara State:

"it is not good for one to be looking for what is not lost. By the time one begins to subject oneself to screening, that is when the thing will happen to the person. Is better to the belief that it cannot happen and not do what can make it happen".

Economic reality influences women's attitude, value and behaviour disposition to diseases preventive measures. Given the limitations on women's income in informal employment and their complete exclusion from the cash economy in some cases, the extent to which poor women, especially those in charge of households, can afford expenditure (related to health care) such as taking preventive measures such as cancer screening. Women's health decisions are increasingly influenced by the unprecedented harsh economic climate. This is a major risk factor observed during this study for the trend of responses to screening questions. Cancer does not present symptoms until a later stage, especially cervical cancer, yet women in the informal sector do not see a reason to go and waste little resources they have in the hospital because of what that cannot feel. From the in-depth interview, one of the breast cancer survivors has this to say:

"Sometimes when we hear about cancer on the radio, we talk about it in the market, and we say a prayer that God will not allow us to encounter sickliness that will be more than what we can handle.

Going for screening is out of it, because it will involve money, and most of us don't have no budget for screening when one is not sick".

Women (age 21-35 years)

Inadequate screening facilities are another challenge to the uptake of screening. Respondents' belief that the availability of the facility will encourage their participation in screening exercises. As a respondent explained:

" as a woman, one needs to protect oneself, but most of the clinic around don't conduct the screening, they normally direct people to the general hospital where there are many people and also too far". Several studies, such as the study of factors associated with women taking cervical cancer screening in Portland, Jamaica [20], identify a negative association between not knowing where to go for cervical screening and having Pap smear. The considerable literature on the association of breast and cervical cancer outcomes with early screening exercise has necessitated awareness and practices are very important factors in prevention and reduction of mortality. Cancer can easily be halt with the timely detection and early intervention. Consequently, women sensitivity and participation in screening exercises are non-negotiable forces in reducing the rate of breast and cervical cancer in Nigeria.

The hindrance to participation in screening breast and cervical screening exercises among women in the informal sector has been highlighted. Borrowing from the studies by [6], [19], [21], this study, therefore, recommends ascertaining individual, social and structural predictors of breast and cervical among women in the informal sector. These factors are especially necessary for identifying population-specific barriers and to design, evaluate and present a targeted population-based breast and cervical cancer control interventions and programs for different category of women.

Acknowledgements

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