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RESEARCH ARTICLE

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BREAST CANCER AWARENESS, ATTITUDE AND CHALLENGES AMONG WOMEN IN PORT HARCOURT CITY: IMPLICATIONS FOR SUSTAINABLE COMMUNITY DEVELOPMENT

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ABSTRACT

Background: The breast cancer burden in Africa according to GLOBOCAN 2018 was 168,690 cases and 74,072 deaths. This study evaluated the status of breast cancer awareness, attitude, and challenges among women in the two local government areas in Port Harcourt, Nigeria. **Materials and Methods:** A cross sectional descriptive study was carried out using the multistage sampling technique, and semi-structured interviewer-administered questionnaire to extract information on breast cancer awareness, attitude to breast cancer, and challenges. Data was analyzed with the Statistical Package for the Social Sciences (SPSS) version 23.0. **Results:** Majority of respondents (n = 346, 62%) did not know about the symptoms of breast cancer, and most (n = 498, 89.2%) had never undergone any form of screening for breast cancer. Political (n = 149, 26.7%), religious (n = 124, 22.2%), cultural (n = 50, 9.0%), and financial (n = 18, 3.2%) challenges were highlighted. **Conclusion:** Awareness of breast cancer symptoms and screening was low, and most of respondents had never undergone any form of screening. Multiple challenges exist without inclusive Health Insurance coverage for breast cancer. A government driven program using community-based network can help to improve on the available outlook of breast cancer public awareness.

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INTRODUCTION

There is global concern for breast cancer, (Wilkinson & Gathani, 2022) as the worldwide deaths from breast cancer hits 685,000 and the total number of newly diagnosed cases approximates to 2.3 million in the year 2020. (Lei et al., 2021) Belgium was reported to have the highest age-standardized incidence of 112.3 per 100,000 population and lowest in Iran (35.8 per 100,000), while the age-standardized mortality was highest among the Fiji population (41.0 per 100,000) and lowest in South Korea (6.4 per 100,000). (Lei et al., 2021) Among the top five leading cancer affecting human population (Lung, liver, stomach, breast, and colon cancers), breast cancer is the most common among women with a rising global incidence. (Cao, Chen, Yu, Li, & Chen, 2021) Efforts to improve awareness and screening for breast cancer are ongoing worldwide, with particular emphasis on developing countries where awareness levels are lower. (L. Newman & Pearlman, 2022; Nishimura & Acoba, 2022; Ritchie, Van Hal, & Van den Broucke, 2022) A study conducted in 2022 revealed that 84% of women globally were aware of breast cancer, with only 51%

recognizing the symptoms and 40% familiar with the risk factors (Wang et al., 2022) The figures are however lowest in developing countries. The breast cancer burden in Africa according to GLOBOCAN 2018 was reported to be 168 690 cases and 74,072 deaths, while the age-standardized incidence rate was 37.9 per 100,000 population. (Sharma, 2021) Regional variations exist, with the largest concentration of advanced tumors in the West African Subregion. (Olayide et al., 2021) Unfortunately, breast cancer in Africa is often characterized by a higher prevalence of triple receptor negative tumors that responds poorly to chemotherapeutic measures. (Der et al., 2015; Hercules et al., 2022; Howard & Olopade, 2021; L. A. Newman et al., 2019; Stark et al., 2010) and more recently quadruple-negative breast cancer with poorer prognosis. (Bhattarai et al., 2019; Davis et al., 2018; Haruna et al., 2022; Oladeru, Kanaan, Naab, & Ricks-Santi, 2022) Rather unfortunately, the efforts at addressing breast cancer in Africa does not seem to keep pace with the peculiarities and challenges. In Sub-Saharan African, the overall prevalence of breast cancer screening reported from four countries (2010 - 2014) was 12.9%. (Ba et al., 2020) Lack of awareness and limited resources is a significant issue in Africa. In an online national

survey among health professionals in Nigeria, the mammography screening utilization rate was reported to be 15.4%.(Omisore et al., 2022). Occurrence of advanced breast cancer among women with a relatively lower mean age has been the reported pattern of the disease in Port Harcourt, (Elenwo, Dimoko, & Ijah, 2020; Elenwo, Ijah, & Okoh, 2021; Elenwo, Ijah, & Dimoko, 2022; Gogo-Abite & Nwosu, 2005; Obiorah & Abu, 2019; Wichendu & Dodiya-Manuel, 2021) necessitating advocacy for screening, timely diagnosis and improved treatment. Cases of breast cancer among adolescent Nigerians have been reported.(Ntekim, Oluwasanu, & Odukoya, 2022) Poor participation in breast cancer screening services has also been reported among women in Port Harcourt (Mbaba, Ogolodom, Alazigha, Abam, & Maduka, 2021). The female breast was also reported to be the single most involved organ in cancer accounting for 20.6% of cancer mortality at the University of Port Harcourt Teaching Hospital (Christopher & Charles, 2019). Efforts at public awareness on breast cancer in Port Harcourt are on-going, being carried out by healthcare associations, clubs, and non-governmental organizations in print media, audiovisual media, and others media within and around the city of Port Harcourt (Nyesom-Wike, 2022; Okon, 2016) However, health professionals still encounter advanced forms of breast cancer in both educated and uneducated patients in the tertiary healthcare centers. Even when early breast cancers are seen, some patients decline consent for treatment measures, avoid the hospitals and thereafter represent in poorer conditions. This study therefore evaluated the status of breast cancer awareness, attitude, and challenges among women in Obio-Akpor and Port Harcourt City Local Governments Areas in the first quarter 2023.

MATERIALS AND METHODS

Research Design: A cross sectional descriptive study was carried out.

Study Area: The study area was Port Harcourt, the capital of Rivers State, in Southern Nigeria. Port Harcourt City is made up of parts of Obio-Akpor and Port Harcourt City Local Governments Areas, out of the 23 Local Governments of Areas in Rivers State.

Study Sites: Public facilities (fast food eateries, state secretariat, universities, health centers, hospitals, etc.) were the study sites.

Study Population/Participants: Women resident in Obio-Akpor and Port Harcourt City Local Governments Areas of Rivers State Nigeria, aged 18 years and above were the study participants.

Sample Size Determination: The minimum sample size for the survey was determined using the formula developed by Taro Yamane based on estimated population of women in Port Harcourt (257,855) and Obio-Akpor local (223,399) governments taken to be 481,254 from 2006 census. (Commission, 2009) $n = N/1 + Ne^2$ $n =$ minimum sample size, $N =$ Total population size and $e =$ desired precision/level of significance, usually 5% (0.05) at 95% Confidence Interval (CI). Hence, we have = 399.7, approximately 400.

Sampling Method: The multistage sampling technique was used. Port Harcourt city was divided into four (4) strata using major landmarks - the East-West Road and the Aba Road dividing population into groups of similar socio-economic status; then field officers were sent out with the study instrument to collect data from residents within these strata in the month of March 2023.

Study Instrument: Semi-structured interviewer-administered question naire was used.

Study Variables: Information on awareness of breast cancer, attitude to breast cancer, and challenges associated with assessing breast cancer care services were collated.

Bias: The study population in this study was inclusive of adolescents (from 18 years of age), since breast cancer is also being reported among adolescents.

Data Analysis: Data was formed into tables and analysed using the Statistical Package for the Social Sciences (SPSS) version 23.0. Chi square test was used for statistical significance and logistic regression (odds ratio) for association between variables.

Reliability of Instrument: The study instrument was pre-tested in a similar environment, and scrutinized by some experts and the authors before use.

RESULTS

A total of 558 women were included in the study.

Table 1. Socio-demographic characteristics of respondents

Variables	Frequency (n = 558)	Percentage
<i>Age in Years (Mean=34.87±10.99; Min=18; Max=73)</i>		
Less than 21	26	4.7
21 - 30	216	38.7
31 - 40	170	30.5
41 - 50	90	16.1
51 - 60	42	7.5
Above 60	14	2.5
<i>Marital Status</i>		
Single	255	45.7
Married	278	49.8
Separated	13	2.3
Divorced	11	2.0
Widow	1	.2
<i>Education</i>		
Primary	8	1.4
Secondary	144	25.8
Tertiary	406	72.8
<i>Religion</i>		
Christianity	536	96.1
Islam	14	2.5
Others	8	1.4
<i>Place of employment</i>		
Civil service	157	28.1
Company (Worker) service	60	10.8
Self-employed	227	40.7
Political office	6	1.1
Unemployed	108	19.4
<i>Type of work</i>		
Professional (Medical officer/Legal service, engineering)	180	32.3
Business (manufacturing, trading, transportation)	192	34.4
Farming	18	3.2
Unemployed	116	20.8
Student	52	9.3
<i>Monthly Income (₦)</i>		
Less than 30,000	161	28.9
31,000 - 50,000	79	14.2
51,000 - 100,000	68	12.2
101,000 - 200,000	36	6.5
More than 200,000	14	2.5
No response	200	35.8

Table 1 shows the socio-demographic characteristics of the respondents. The mean age of respondents was 34.87±10.99 years. Two hundred and sixteen (38.7%), 170 (30.5%), and 90 (16.1%) were within the age ranges of 21 – 30 years, 31 – 40 years, and 41 – 50 years respectively. Almost half (n = 278, 49.8%) were married, and 255 (45.7%) were single. Majority (n = 406, 72.8%) had tertiary education and only 8 (1.4%) had only primary education. The monthly income of 161 (28.9%) respondents was less than ₦30,000.00, although 200 (35.8%) did not respond. Table 2 shows information on awareness on breast cancer. Majority (n = 510, 91.4%) had heard about breast cancer before. The social media (n = 195, 35.3%), hospital / clinic (n = 107, 19.2%), friends / relative (n = 84, 15.1%), and from radio (n = 64, 11.5%) were the main sources of

respondents' information about breast cancer. More than a quarter (n = 162, 29.0%) described breast cancer as uncontrolled growth in the breast, 92 (16.5%) as cancer of the breast, and 52 (9.3%) described breast cancer as lump development in the breast, while 213 (38.2%) declined response. Majority (n = 499, 89.4%) of the respondents felt that breast cancer was a cause of concern, and 207 (37.1%) knew someone who had suffered from breast cancer. Table 2 shows information on awareness on breast cancer. Majority (n = 510, 91.4%) had heard about breast cancer before.

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Table 2. Awareness on breast cancer

Variables	Frequency (n = 558)	Percentage
<i>Heard of breast cancer before</i>		
Yes	510	91.4
No	48	8.6
<i>Source of information about breast cancer</i>		
Social media	197	35.3
Newspaper	8	1.4
Television	50	9.0
Radio	64	11.5
Hospital/Clinic	107	19.2
Friends/Relative	84	15.1
No response	48	8.6
<i>Describe breast cancer</i>		
Uncontrolled growth in the breast	162	29.0
Serious sickness of the breast	24	4.3
Swelling of breast	15	2.7
Cancer of the breast	92	16.5
Lump development in the breast	52	9.3
No response	213	38.2
<i>One should worry about breast cancer</i>		
Yes	499	89.4
No	30	5.4
Not sure	29	5.2
<i>Know anyone who suffered from breast cancer</i>		
Yes	207	37.1
No	328	58.8
Not sure	23	4.1
<i>Relationship with the person who had breast cancer</i>		
No relationship	9	1.6
Family friend	72	12.9
Neighbor	26	4.7
Relative	74	13.3
Brethren	12	2.2
Patient/Client	12	2.2
No response	353	63.3

Table 3. Awareness on breast cancer (Risk factors, Complaints and Signs, etc.)

Variables	Frequency (n = 558)	Percentage
<i>Knowledge of breast cancer risk factors</i>		
Yes	191	34.2
No	297	53.2
Not sure	70	12.5
<i>Knowledge of complaints or signs of breast cancer</i>		
Yes	212	38.0
No	336	60.2
Not sure	10	1.8
<i>Known complaints or signs of breast cancer</i>		
Strong pain in the affected area	72	12.9
Swollen breast	41	7.3
Lump growth in the breast	80	14.3
Discharge from the nipple	19	3.4
Do not know / Can't describe	346	62.0
<i>Ever experienced the complaints of breast cancer</i>		
Yes	11	2.0
No	536	96.1
Not sure	11	2.0
<i>Have knowledge about screening test for breast cancer</i>		
Yes	148	26.5
No	380	68.1
Not sure	30	5.4

Table 3 shows the awareness on breast cancer (risk factors, complaints and signs, knowledge of screening test etc.). One hundred and ninety-one (34.2%) respondents asserted to knowing about breast cancer risk factors, 212 (38%) knew about the complaints or signs of breast cancer. Majority of respondents (n = 346, 62%) did not know about the symptoms of breast cancer, a few knew the correct symptoms (lump in the breast: n = 80, 14.3%; nipple discharge: n = 19, 3.4%), while others had the wrong information. Few respondents (n = 148, 26.5%) had knowledge about screening test for breast cancer. Table 4 shows respondents' attitude to breast cancer screening and treatment. Majority of respondents (n = 498, 89.2%) had never undergone any form of screening for breast cancer, while 46 (8.2%) had done so. However, majority (n = 469, 84.1%) expressed willingness to undergo screening "if it's free of charge". Very few respondents (n = 18, 3.2%) knew of some traditional remedies for breast cancer.

= 124, 22.2%), cultural (n = 50, 9.0%), and financial (n = 18, 3.2%). Majority (n = 458, 82.1%) never went for regular medical check-ups, and most respondents had never benefited from (or been involved in) an organized free / opportunistic breast cancer screening program. The relationship between educational level and knowledge of screening test for breast cancer is shown in Table 6. The highest proportion of those that had knowledge of screening test for breast cancer possessed tertiary education (n = 132, 32.5%). This implies that level of education promotes awareness of breast cancer and this association was statistically significant ($p=0.000$).

DISCUSSION

Breast cancer has assumed an outstanding position in the hierarchy of cancers among women and practitioners in sub-Saharan African keep

Table 4. Attitude to breast cancer screening and treatment

Variables	Frequency (n = 558)	Percentage
<i>Ever done breast cancer screening</i>		
Yes	46	8.2
No	498	89.2
Not sure	14	2.5
<i>Will go for breast cancer screening if its free of charge</i>		
Yes	469	84.1
No	70	12.5
Not sure	19	3.4
<i>Have any traditional treatment for breast cancer</i>		
Yes	18	3.2
No	461	82.6
Not sure	79	14.2
<i>Used traditional treatment</i>		
Massage	5	.9
Rubbing crude oil on the breast	3	.5
Making sacrifices to remove bad blood from the breast	6	1.1
Visiting the village native doctor	4	.7
Visiting the church for prayer	4	.7
No response	536	96.1

Table 5. Challenges to breast cancer screening and treatment

Variables	Frequency (n = 558)	Percentage
<i>Have Health Insurance coverage (including cancer screening and treatment)</i>		
Yes	31	5.6
No	508	91.0
Not sure	19	3.4
<i>Go for regular check-ups even when not sick</i>		
Yes	89	15.9
No	458	82.1
Not sure	11	2.0
<i>Other known challenge of breast cancer screening in Nigeria</i>		
Political	149	26.7
Religious	124	22.2
Traditional/cultural	50	9.0
Financial constraint	18	3.2
No response	217	38.9
<i>Ever benefited in an organized free/opportunistic breast cancer screening program</i>		
Yes	36	6.5
No	513	91.9
Not sure	9	1.6

Table 6. Relationship between educational level and knowledge of screening test for breast cancer (n = 558)

Educational level	Knowledge about screening test for breast cancer			Total	(X^2)	P-Value
	Yes	No	Not sure			
Primary	1 (12.5%)	5 (62.5%)	2 (25.0%)	8	33.253	0.000
Secondary	15 (10.4%)	119 (82.6%)	10 (6.9%)	144		
Tertiary	132 (32.5%)	256 (63.1%)	18 (4.4%)	406		
Total	148	380	30	558		

Table 5 shows the challenges to breast cancer screening and treatment among respondents. Most respondents (n = 508, 91.0%) had no Health Insurance coverage that was inclusive of cancer screening and treatment, while only few (n = 31, 5.6%) had. Other known challenges of breast cancer screening were political (n = 149, 26.7%), religious (n

seeing influx of cases of advanced cancers in the healthcare facilities. (Anyigba, Awandare, & Paemka, 2021; Black & Richmond, 2019; Joko-Fru et al., 2021) Therefore, measures that are targeted at improving awareness, and shaping public attitude to diagnosis and treatment amidst challenges should no longer be taken lightly by all

and sundry. This study evaluated the status of breast cancer awareness, attitude, and challenges among women in Port Harcourt. The respondents were relatively young and had a mean age of 34.87 ± 10.99 years. Majority had tertiary education and almost half were married. About a quarter of the respondents were living on a monthly income below ₦30,000.00 (65.2USD), while almost a third declined comment. Sixty-two dollars (USD) as monthly income is grossly suboptimal. This may well be responsible for why some respondents declined comment to keep their sanity. Our study is similar to a monthly income of N42,142.70 reported in a Nigerian study among rural households that used data from the National Bureau of Statistics, (MUKAILA, FALOLA, & EGWUE, 2021) and also an Ibadan study reported in 2009 where the monthly income of breast cancer patients was less than ₦12,500.00 (<100 USD). (Ntekim, Nufu, & Campbell, 2009).

Almost all respondents had heard about breast cancer before the study, mainly through the social media, hospitals and from friends. Although majority of the respondents were aware that breast cancer was a source of concern, only a few respondents could satisfactorily describe the true meaning of breast cancer and only about a third knew the risk factors. Majority of the respondents also did not know the symptoms and screening tests done for breast cancer. The implication of these findings is that the respondents and the general public by extension are not likely to look out and recognize early features for breast cancer, leaving the professionals with cases of late breast cancer to manage. Awareness is therefore important to forestall this experience. Similar low level of awareness was reported women in Pakistan, (Maqsood et al., 2009) Eastern Iran, (Izanloo et al., 2018) Malaysia, (Kirubakaran, Jia, & Aris, 2017) and rural South Africa. (Ramathuba, Ratshirumbi, & Mashamba, 2015) Our findings contrast with the report among young women in the United Arab Emirates where the average total knowledge was 51% and that of knowledge of symptoms and signs was 57% and 53% respectively. (Younis, Al-Rubaye, Haddad, Hammad, & Hijazi, 2016). A Nigerian study among Nurses in Lagos reported an improved knowledge of symptoms, (O. Odusanya, 2001) however, this is expected from such professionals. Another Nigerian study among patients in health facilities in Benin, Nigeria, showed above average knowledge of symptoms among a larger number of respondents. (S. Azubuike & Okwuokei, 2013) However, poor knowledge of symptoms and screening tests is reported in most other Nigerian studies. (Nwaneri, Osuala, Okpala, Emesowum, & Iheanacho, 2017; Ojewusi Ayoola & Arulogun Oyedunni, 2016; Okobia, Bunker, Okonofua, & Osime, 2006)

Knowledge of breast cancer that does not translate into beneficial actions is not likely to improve the outlook of breast cancer in our environment. Most of the respondents had never undergone breast cancer screening, although willing to do so. Unfortunately, some of the health workers who possessed above average knowledge of breast cancer did not practice experientially up to the level of their knowledge. Poor attitude and practice of breast cancer screening were reported in other Nigerian studies, (S. O. Azubuike & Celestina, 2015) and even among health professionals. (Akhigbe & Omuemu, 2009; Pruitt et al., 2020) These findings therefore suggest the presence of other challenging factors other than individuals possessing knowledge of breast cancer. Most respondents had not participated in any organized free / opportunistic breast cancer screening program, and the culture of regular medical check-ups was absent among the majority. The implication of this is that breast cancer awareness and screening campaigns have not been regular and wholistic, hence resulting in exclusion of these large category of respondents. Additionally, the challenge of general national economic downturn may have indirectly affected respondents' ability to undergo regular medical check-ups. The challenges against breast cancer screening and treatment were absence of inclusive Health Insurance coverage, political, religious, cultural, and financial. These challenges of political commitment to breast cancer services have also been earlier well reported in other parts of Nigeria. (Ayandipo et al., 2020; Bello, 2012; Erhabor et al., 2017; Shrivastava, Shrivastava, & Ramasamy, 2013) The impact of religious and cultural challenges to breast cancer awareness and care services have also been reported. (Emami et al.,

2021; Osuchukwu, 2022; Reed & Mberu, 2015). A statistically significant relationship was found to exist between the level of education and awareness of breast cancer, implying that being more educated increases the chances of being aware of breast cancer. This observation is in agreement with the finding of a similar study among Africans where low level of education was a strong factor against breast cancer awareness. (McKenzie et al., 2018) This same observation has been found to be true as highlighted in other studies across the globe. (Gurdal, Saracoglu, Oran, Yankol, & Soybir, 2012; Kanaga, Nithiya, & Shatirah, 2011; Radi, 2013; Yousuf, Al Amoudi, Nicolas, Banjar, & Salem, 2012) However, the relationship between level of education and breast cancer awareness may not always hold true as there are other studies carried out in Nigerian setting among relatively educated population where the attitude to mammography was poor even with a relatively "high awareness". (MO, Ayodele, & Umar, 2012) A similar finding was describe among older women in Britain, where more educated women were found to be less likely to check themselves even with "higher" awareness. (Linsell, Burgess, & Ramirez, 2008)

Study Limitations: Ours is a questionnaire-based study, limited by some recall bias, reluctance to respond to questions on sensitive topics, among others.

CONCLUSION

Majority of respondents did not know about the symptoms and screening for breast cancer, and most had never undergone any form of screening for breast cancer. Also, most respondents had no Health Insurance coverage that was inclusive of breast cancer screening and treatment. Other challenges against breast cancer screening and treatment were political, religious, cultural, and financial issues.

Recommendation: We recommend from the findings of this study that breast cancer screening services should be provided "free of charge" if we hope to capture the greater number of the population, as cost constraint is a challenge. Efforts should also be intensified to ensure that National Health Insurance should be extended to include breast cancer care services. There should be a reorientation of the health workforce to ensure that health professionals not only possess knowledge but also in practice serve as examples to the public on issues of breast cancer screening. A well-structured regular government driven program using community-based network can help in driving the message of breast cancer to the community level, to improve on the available outlook of breast cancer public awareness.

Other Information

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Conflict of Interest: None.

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