

Prevalence, Awareness, and Attitudes towards Breast Cancer among Women in Southeast Nigeria

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Abstract:

Background: Breast cancer is a significant health challenge in Southeast Nigeria, contributing to high morbidity and mortality among women. Factors such as limited access to healthcare, lack of awareness, and cultural stigmas exacerbate the burden, leading to late-stage diagnosis and poor survival rates.

Objectives: This study aims to assess the prevalence, awareness, and attitudes towards breast cancer among women in Southeast Nigeria, and to identify the risk factors and preventive measures practiced in this region.

Materials and Methods: A cross-sectional descriptive survey was conducted in Southeast Nigeria. A stratified sampling method was used to select participants from urban and rural areas. Data were collected from 360 women using a structured questionnaire. Descriptive statistics and cross-tabulations were utilized for data analysis.

Results: Awareness of breast cancer was high (96.67%), primarily obtained through the internet/social media (43.51%) and healthcare professionals (19.18%). However, knowledge about risk factors and symptoms was moderate to low, with only 14.17% considering themselves very knowledgeable. Regular breast self-examinations were practised by 30.28%, while 69.72% had never undergone clinical breast examinations. The prevalence of breast cancer diagnosis was 16.39%. Attitudes towards screening were positive, with 71.11% strongly agreeing that regular screening aids early detection. Despite this, confidence in identifying symptoms was low, with only 3.33% feeling very confident.

Conclusions: The study highlights significant gaps in knowledge and practices related to breast cancer despite high awareness levels. There is an urgent need for targeted educational programs to enhance knowledge about risk factors, symptoms, and the importance of regular screening. Improving healthcare access and addressing cultural barriers are crucial for early detection and better outcomes.

Keywords: breast cancer; southeast Nigeria; awareness; prevalence; risk factors; screening; healthcare access

Introduction

Breast cancer is the most common cancer among women worldwide and represents a significant public health concern [1]. In Southeast Nigeria, as in many other parts of Africa, breast cancer poses a critical challenge due to

late-stage presentation and inadequate healthcare infrastructure. Understanding the prevalence and awareness of breast cancer in this region is essential for developing effective strategies to combat this disease.

Globally, breast cancer accounts for approximately 24.2% of all cancer cases among women, making it the most prevalent cancer in this demographic [1]. Despite advances in detection and treatment, breast cancer remains a leading cause of cancer-related mortality among women, with significant disparities in outcomes between high-income and low-income countries. In high-income countries, early detection through regular screening and advanced treatment options have substantially improved survival rates. Conversely, in low-income countries, including many in Africa, the lack of resources and awareness often results in late diagnosis and poor prognoses [2].

In Africa, breast cancer incidence and mortality rates are on the rise. The increasing urbanization, lifestyle changes, and improved life expectancy contribute to this growing burden [3]. However, African women typically present with breast cancer at more advanced stages compared to women in high-income countries. This disparity is attributed to limited access to healthcare services, cultural beliefs, and a lack of awareness about breast cancer symptoms and screening methods [4].

Nigeria, the most populous country in Africa, faces significant challenges in addressing breast cancer. The country has a high burden of breast cancer, with regional variations in incidence and mortality rates. Southeast Nigeria, in particular, has been reported to have a relatively high incidence of breast cancer, yet studies focusing specifically on this region are limited [5]. The

healthcare system in Nigeria is under-resourced, with insufficient facilities for cancer screening, diagnosis, and treatment. This inadequacy is further exacerbated by a shortage of trained healthcare professionals and poor health-seeking behaviour among the population [6].

The prevalence of breast cancer in Nigeria varies across different regions. A study conducted by the Nigerian National Cancer Control Program reported that the prevalence rate of breast cancer was higher in urban areas compared to rural areas, largely due to better diagnostic capabilities in urban centres [7]. In Southeast Nigeria, studies have shown a significant lack of awareness about breast cancer symptoms, risk factors, and the importance of early detection [8]. This lack of awareness is a major barrier to early diagnosis and effective treatment.

Cultural beliefs and practices play a crucial role in the health-seeking behavior of women in Southeast Nigeria. Many women rely on traditional medicine and only seek medical attention when the disease has advanced significantly. Additionally, socioeconomic factors such as poverty, low educational levels, and lack of health insurance contribute to delays in seeking treatment [9]. Fear of stigmatization and the misconception that breast cancer is a death sentence also deter women from undergoing screening and seeking early medical intervention [7].

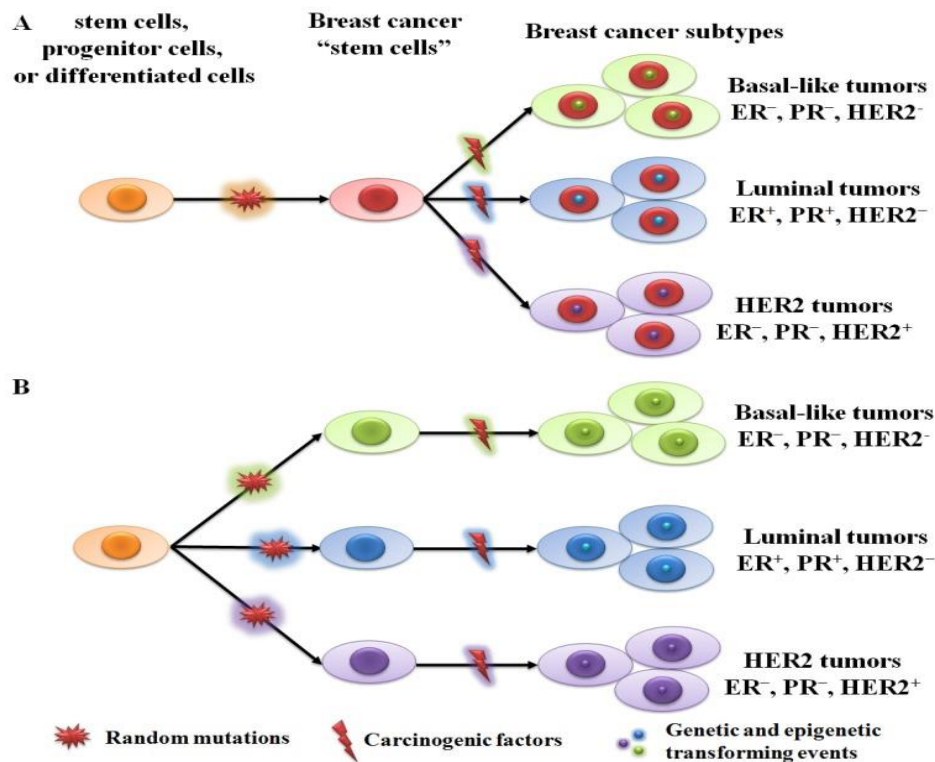


Figure 1: Two hypothetical theories of breast cancer initiation and progression [10].

(A) All subtypes of tumor are derived from the same stem cells or progenitor cells. Different tumor phenotypes are then determined by subtype-specific transforming events. (B) Each tumor subtype is initiated from a single cell type (stem cell, progenitor cell, or differentiated cell). Random mutations can gradually accumulate in any breast cells, leading to their transformation into tumor cells when an adequate number of mutations have accumulated [10].

Increasing awareness about breast cancer through education and community-based programs is essential to improving early detection rates in Southeast Nigeria. Studies have shown that awareness campaigns can significantly

enhance knowledge about breast cancer and encourage women to participate in regular screening practices [11]. Healthcare policies aimed at reducing the barriers to breast cancer screening and treatment, such as subsidizing the cost of mammograms and establishing more cancer care centres, are also crucial.

Materials and Methods

Study Design

A cross-sectional descriptive survey was conducted to assess the prevalence, awareness, and attitudes towards breast cancer among women in southeast Nigeria

Study Area

Southeast Nigeria, comprising states such as Abia, Anambra, Ebonyi, Enugu, and Imo, faces significant health challenges, including breast cancer. Breast cancer is a leading cause of morbidity and mortality among women in this region. Several factors contribute to this high burden, including limited access to healthcare facilities, lack of awareness about breast cancer symptoms, and cultural stigmas that delay diagnosis and treatment. Healthcare infrastructure in Southeast Nigeria is relatively underdeveloped, with many rural areas lacking adequate medical services. This results in late-stage presentations of breast cancer, which significantly reduces survival rates. Efforts to improve early detection through awareness campaigns and mobile screening units are vital. Additionally, addressing cultural barriers and educating women on the importance of regular breast self-examinations and seeking prompt medical attention can improve outcomes.

Population and Sampling

Target Population

The target population comprised women aged 18 years and above residing in Southeast Nigeria.

Sampling Method

A stratified sampling method was employed to ensure representation from both urban and rural areas within the southeast states. The steps involved were:

- i. Selection of States: Three states were randomly selected from the five states in Southeast Nigeria.
- ii. Selection of Local Government Areas (LGAs): Six LGAs were selected from each state, with an equal representation of urban and rural areas (three urban and three rural LGAs per state).
- iii. Selection of Hospitals: Two general hospitals were randomly chosen from each LGA.
- iv. Selection of Participants: From each hospital, ten participants were selected, resulting in a total sample size of 360 women.

Data Collection

Instrument

Data was collected using a structured questionnaire developed by the research team. The questionnaire was divided into different sections covering socio-demographic information, awareness of breast cancer, knowledge of breast cancer, medical history, as well as attitudes and practices towards breast cancer screening.

Procedure

- **Pre-testing:** The questionnaire was pre-tested on a small sample of women to ensure clarity and appropriateness of the questions.
- **Training of Data Collectors:** Data collectors were trained on the objectives of the study, ethical considerations, and the administration of the questionnaire.
- **Data Collection:** Face-to-face interviews were conducted with the participants in their local languages or English, depending on their preference.

Data Analysis

Data were analyzed using descriptive statistics such as frequencies and percentages to summarize the socio-demographic information, awareness of breast cancer, knowledge of breast cancer, medical history, as well as attitudes and practices towards breast cancer screening. Cross-tabulations were used to explore associations between the dependent and independent variables.

Ethical Considerations

Written informed consent was obtained from all participants before the interviews. Participant anonymity was ensured by assigning codes to the questionnaires and keeping all information confidential. The study protocol was approved by the relevant ethics committees in each of the selected states.

Results

The socio-demographic profile of the 360 participants reveals that the majority are aged between 30 and 39 years (52.50%). Educationally, most participants have attained secondary education (58.89%), while a significant portion has tertiary education (29.17%). In terms of marital status, 84.17% are married. Employment status shows that 56.94% are self-employed, and half of the participants reside in rural areas, with the other half in urban areas (Table 1).

Socio-Demographic Information	Frequency (n = 360)	Percentage (%)
Age (in Years)		
Less than 20	19	5.28
20 – 29	86	23.89
30 – 39	189	52.50
40 and above	66	18.33
Educational Level		
No formal Education	11	3.06
Primary Education	32	8.89
Secondary Education	212	58.89
Tertiary Education	105	29.17
Marital Status		
Single	36	10.00

Married	303	84.17
Divorced/Widowed	21	5.83
Employment Status		
Employed	62	17.22
Self-Employed	205	56.94
Unemployed	93	25.83
Retiree	00	0.00
Residence		
Rural	180	50.00
Urban	180	50.00

Table 1: Socio-Demographic Information of Participants

Regarding breast cancer awareness, an overwhelming 96.67% of participants have heard of breast cancer, with the primary sources of information being the internet and social media (43.51%) and healthcare professionals

(19.18%). Additionally, 36.67% know someone diagnosed with breast cancer (Table 2). The degree of awareness varies, with 39.72% having a good awareness level and 21.94% having a very good level (Figure 1).

Variables	Frequency (n = 360)	Percentage (%)
Have you heard of breast cancer?		
Yes	348	96.67
No	12	3.33
*If yes, where did you first hear about breast cancer? (Select all that apply) (n = 485)		
Television/Radio	83	17.11
Newspaper/Magazines	42	8.66
Internet/Social Media	211	43.51
Healthcare professionals	93	19.18
Family/Friends	42	8.66
Community outreach programs	11	2.27
Others	03	0.62
Do you know anyone who has been diagnosed with breast cancer?		
Yes	132	36.67
No	228	63.33

* signifies multiple responses

Table 2: Awareness of Breast Cancer

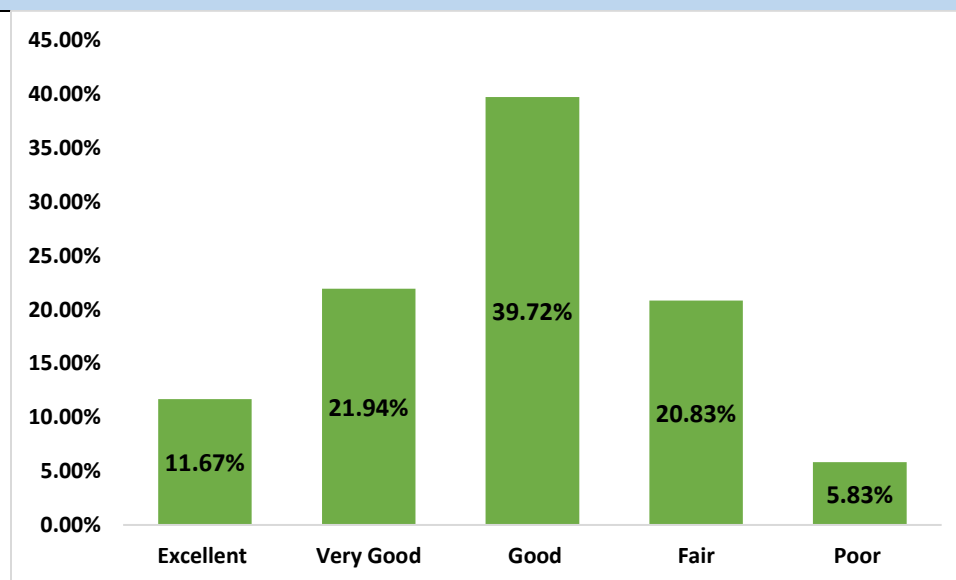


Figure 1: Degree of Awareness of Breast Cancer

Participants' knowledge about breast cancer shows that the most recognized risk factor is a family history of breast cancer (29.11%), followed by lifestyle factors (23.77%). Common symptoms identified include pain in any area of the breast (25.06%) and lumps in the breast or underarm (22.99%). However,

self-assessed knowledge levels are modest, with 23.06% considering themselves somewhat knowledgeable and 24.44% not knowledgeable at all. Most participants (80.28%) recognize breast cancer as a serious health issue (Table 3).

Variables	Frequency (n = 360)	Percentage (%)
*What do you think are the risk factors for breast cancer? (Select all that apply) (n = 711)		
Family history of breast cancer	207	29.11
Age	49	6.89
Gender	74	10.41
Hormonal factors (e.g., early menstruation, late menopause)	82	11.53
Lifestyle factors (e.g., diet, alcohol consumption, smoking)	169	23.77
Radiation exposure	76	10.69
Lack of physical activity	07	0.98
Obesity	42	5.91
Others	05	0.70
*What are the common symptoms of breast cancer that you are aware of? (Select all that apply) (n = 1209)		
Lump in the breast or underarm	278	22.99
Change in breast shape or size	211	17.45
Nipple discharge	136	11.25
Pain in any area of the breast	303	25.06
Skin changes on the breast	258	21.34
None	00	0.00
Other	23	1.90
How knowledgeable do you consider yourself about breast cancer?		
Very knowledgeable	51	14.17
Somewhat knowledgeable	83	23.06
Neutral	79	21.94
Not very knowledgeable	59	16.39
Not knowledgeable at all	88	24.44
Do you believe breast cancer is a serious health issue?		
Yes	289	80.28
No	71	19.72

Table 3: Knowledge of Breast Cancer



Figure 2: Degree of Knowledge of Breast Cancer

The medical history data indicates that 16.39% of participants have been diagnosed with breast cancer, primarily diagnosed between the ages of 50 and 59 (40.68%). Regular breast self-examinations are conducted by

30.28%, and 16.94% have a family history of breast cancer. Additionally, 69.72% have never had a clinical breast examination, and 91.11% have not had any other type of cancer (Table 4).

Variables	Frequency (n = 360)	Percentage (%)
Have you ever been diagnosed with breast cancer?		
Yes	59	16.39
No	301	83.61
If yes, at what age were you diagnosed?		
Below 30	00	0.00
30-39	09	15.25
40-49	15	25.42
50-59	24	40.68
60 and above	11	18.64
Do you perform regular breast self-examinations?		
Yes	109	30.28
No	251	69.72
How often do you undergo clinical breast examinations?		
Annually	33	9.17
Every 2 years	25	6.94
Every 5 years	51	14.17
Never	251	69.72
Do you have a family history of breast cancer?		
Yes	61	16.94
No	299	83.06
Have you ever had any other type of cancer?		
Yes	32	8.89
No	328	91.11
*Do you have a history of any of the following conditions? (Check all that apply) (n = 363)		
Diabetes	44	12.12
Hypertension	59	16.25
Obesity	29	7.99
None	231	63.64

* Signifies multiple responses

Table 4: Medical History of Participants

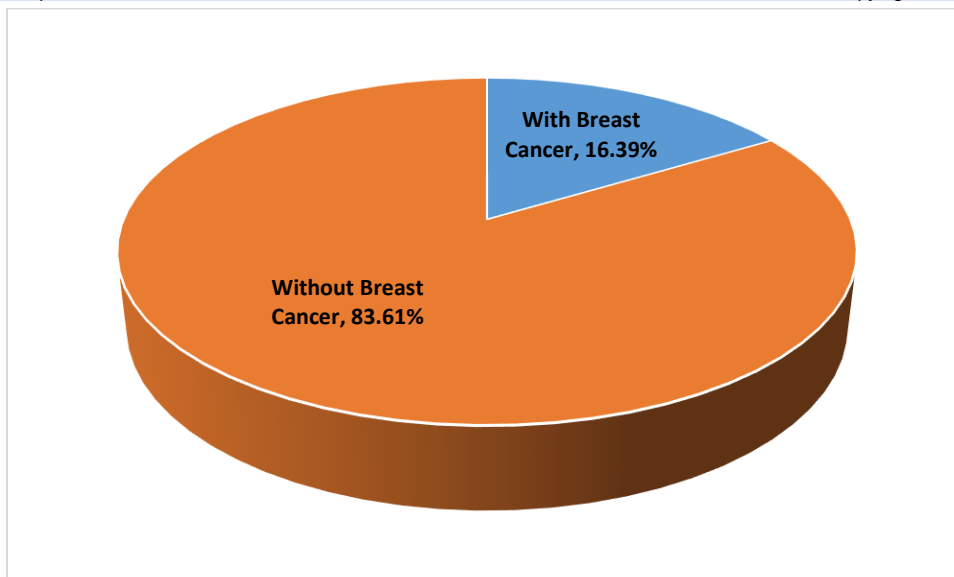


Figure 3: Prevalence and Awareness of Breast Cancer in Southeast Nigeria

Regarding attitudes and practices towards breast cancer screening, confidence in identifying symptoms is low, with 38.06% not confident and 49.72% unsure. However, 71.11% strongly agree that regular screening aids early detection, and 80% believe early detection makes treatment possible. The frequency of recommended breast self-examinations varies, with 41.11% suggesting annually. Participation in clinical breast examinations is

low (23.61%), and 66.94% feel they lack adequate information about breast cancer. Interest in participating in awareness programs is high (78.33%), yet only 27.50% have participated in such programs before. Finally, 89.44% believe there is insufficient support for breast cancer patients in their community (Table 5).

Variables	Frequency (n = 360)	Percentage (%)
How confident are you in identifying the symptoms of breast cancer?		
Very confident	12	3.33
Somewhat confident	32	8.89
Not confident	137	38.06
Not sure	179	49.72
Do you believe regular screening can help in early detection of breast cancer?		
Strongly agree	256	71.11
Agree	84	23.33
Neutral	21	5.83
Disagree	00	0.00
Strongly disagree	00	0.00
Do you believe that breast cancer can be treated if detected early?		
Yes	288	80.00
No	00	0.00
Not sure	72	20.00
How often do you think women should perform breast self-examinations?		
Monthly	64	17.78
Every three months	93	25.83
Annually	148	41.11
Never	00	0.00
Not sure	55	15.28

Have you ever had a clinical breast examination by a healthcare professional?		
Yes	85	23.61
No	218	60.56
Not sure	57	15.83
Do you think breast cancer affects only women?		
Yes	225	62.50
No	135	37.50
Do you feel that you have adequate information about breast cancer?		
Yes	119	33.06
No	241	66.94
Have you ever participated in any breast cancer awareness programs?		
Yes	99	27.50
No	261	72.50
Would you be interested in participating in a breast cancer awareness program?		
Yes	282	78.33
No	78	21.67
Do you feel there is enough support for breast cancer patients in your community?		
Yes	38	10.56
No	322	89.44

Table 5: Attitudes and Practices Towards Breast Cancer Screening

Discussion

The results of this study indicate a high level of breast cancer awareness among women in Southeast Nigeria, with 96.67% of respondents having heard of the disease. This high awareness is consistent with findings from similar studies in other parts of Nigeria and sub-Saharan Africa. For instance, Agbo et al. [12] reported a comparable awareness level of 94.8% among women in Northern Nigeria, suggesting a widespread recognition of breast cancer across different regions of the country. The primary sources of information identified in this study were the Internet and social media (43.51%), followed by healthcare professionals (19.18%), and television/radio (17.11%). These findings reflect the growing influence of digital media in disseminating health information, a trend also observed in studies by Balogun et al. [13] and Akintola and Olubiyi [14].

The significant role of healthcare professionals as a source of information underscores the importance of medical practitioners in health education. This aligns with the findings of Akinola et al. [15], who emphasized the critical role of healthcare providers in improving health literacy and awareness. Conversely, the relatively lower impact of newspapers/magazines (8.66%) and community outreach programs (2.27%) suggests potential areas for targeted improvement, particularly in rural and underserved communities where digital access may be limited.

The study also revealed that 36.67% of respondents knew someone diagnosed with breast cancer. This personal connection to the disease could potentially enhance awareness and understanding, as suggested by the Health Belief Model, which posits that personal experiences and perceived

susceptibility influence health behaviors [16]. The relatively high percentage of respondents with a personal connection to breast cancer in this study is higher than the 24% reported by Okobia et al. [11] in a study conducted in Edo State, Nigeria. This increase may reflect a growing incidence of breast cancer or improved diagnosis and reporting over the years.

When examining the degree of awareness, 39.72% of respondents rated their knowledge as good, while 21.94% rated it as very good, and 11.67% as excellent. These results are promising but also highlight room for improvement. Comparatively, a study by Basse et al. [17] found that only 25% of women in Calabar, Nigeria, rated their awareness as good or better, indicating significant regional variations in the depth of knowledge about breast cancer.

The distribution of awareness levels in this study—with 20.83% rating their awareness as fair and 5.83% as poor—suggests that while initial recognition of breast cancer is high, detailed understanding and knowledge may be lacking for a substantial portion of the population. This is consistent with findings from a systematic review by Donnelly et al. [18], which highlighted that although general awareness of breast cancer is often high, specific knowledge about symptoms, risk factors, and early detection methods is frequently insufficient.

The findings of this study are consistent with the broader literature, which indicates high levels of awareness but varying degrees of detailed knowledge about breast cancer across different populations in Nigeria and sub-Saharan Africa. For instance, Okobia et al. [11] and Basse et al. [17] both highlight the gap between general awareness and specific knowledge, a trend also

observed in studies from other regions, such as East Africa [19] and South Africa [20].

The study identified that only 29.11% of the respondents recognized family history as a significant risk factor for breast cancer. This is relatively low compared to other studies in different regions. For instance, a study conducted in Lagos, Nigeria, found that about 48% of the participants acknowledged family history as a risk factor [7]. This disparity may indicate regional differences in health education or awareness programs.

Lifestyle factors such as diet, alcohol consumption, and smoking were identified by 23.77% of the participants as risk factors. This is slightly higher than the findings from a study in South Africa, where only 18% of women identified lifestyle factors as contributing to breast cancer [21]. The awareness of hormonal factors, including early menstruation and late menopause, was acknowledged by 11.53% of the participants, which is comparable to the 13% reported in a study in Kenya [22].

Interestingly, only 0.98% of the participants recognized lack of physical activity as a risk factor, a stark contrast to findings in developed countries where physical inactivity is well-documented and more commonly recognized by the public as a risk factor [23]. This suggests a need for targeted education on the importance of physical activity in reducing breast cancer risk in Southeast Nigeria.

Regarding symptoms, 25.06% of the respondents were aware that pain in the breast is a common symptom, while 22.99% identified lumps in the breast or underarms as a key symptom. These findings are lower compared to a study in Ghana where 35% of the women could identify lumps as a primary symptom of breast cancer [24]. The awareness of changes in breast shape or size was 17.45%, which is somewhat aligned with the findings in rural India, where approximately 20% of women recognised changes in breast shape as a symptom [25].

The high level of awareness about skin changes on the breast (21.34%) and nipple discharge (11.25%) aligns with previous studies that highlight these symptoms as less commonly known among women in developing countries [26].

The self-perceived knowledge about breast cancer among the respondents showed that only 14.17% considered themselves very knowledgeable, while 24.44% admitted to not being knowledgeable at all. This is lower compared to a similar study in Egypt, where 22% of women felt very knowledgeable about breast cancer [27].

The attitude towards breast cancer as a serious health issue was overwhelmingly positive, with 80.28% of respondents acknowledging its seriousness. This perception is crucial as it reflects a general awareness of the potential severity of breast cancer, even if detailed knowledge about risk factors and symptoms may be lacking. A comparable study in Ethiopia found that 78% of women regarded breast cancer as a serious health issue [28].

The study also found that 16.39% of the participants had been diagnosed with breast cancer. This prevalence is significant and highlights the burden of breast cancer in this population. When comparing this prevalence to previous studies, it aligns with findings from other regions of Nigeria and Sub-Saharan Africa. For instance, a study by Jedy-Agba et al. [4] reported varying prevalence rates across Nigeria, emphasizing the need for region-specific data to address localized healthcare challenges effectively. The prevalence noted in this study underscores the necessity for targeted public health interventions and resource allocation to manage and mitigate breast cancer in Southeast Nigeria.

The age distribution of breast cancer diagnosis among participants showed that the majority were diagnosed between the ages of 50-59 (40.68%), followed by those aged 40-49 (25.42%) and 60 and above (18.64%). Notably, no cases were reported below the age of 30. This age distribution is consistent with global patterns, where the incidence of breast cancer increases with age, particularly after the age of 40 [1]. Early detection and awareness programs should therefore be particularly targeted at women in their 40s and 50s to improve outcomes.

The study found that only 30.28% of the participants performed regular breast self-examinations, while a significant 69.72% did not. Moreover, 69.72% of the participants had never undergone clinical breast examinations, with only 9.17% doing so annually. This low rate of self and clinical examinations is concerning as regular self-examinations and clinical screenings are crucial for early detection of breast cancer [29]. Previous studies have also highlighted similar trends, indicating a general lack of routine breast cancer screening practices in various parts of Nigeria and other developing countries [30]. The reasons for this could range from lack of awareness, and cultural beliefs, to limited access to healthcare facilities.

Regarding family history, 16.94% of participants reported a family history of breast cancer. This is a significant finding as a family history of breast cancer is a known risk factor [31]. Furthermore, 8.89% of the participants had a history of other types of cancer, which may indicate a broader genetic or environmental predisposition to cancers.

The study also examined comorbid conditions among the participants, with 16.25% reporting hypertension, 12.12% diabetes, and 7.99% obesity. These conditions are important as they can complicate cancer treatment and outcomes [32]. The presence of these comorbidities among breast cancer patients highlights the need for integrated healthcare approaches that address both cancer and other chronic conditions.

The findings related to awareness and attitudes towards breast cancer are particularly telling. The low levels of regular breast self-examinations and clinical screenings point to a gap in awareness and possibly access to healthcare services. This aligns with studies by Akhigbe and Omuemu [33] which found that awareness and practice of breast cancer screening methods were generally low in Nigeria. Educational interventions are crucial to improving knowledge and practices related to breast cancer screening.

A considerable proportion of the respondents (49.72%) were not sure about their ability to identify breast cancer symptoms, with an additional 38.06% admitting they were not confident. Only 12 respondents (3.33%) felt very confident. This lack of confidence mirrors findings from other studies in Nigeria and sub-Saharan Africa, where awareness of breast cancer symptoms remains low. For instance, a study by Okobia, et al. [11] reported similarly low levels of symptom awareness among Nigerian women, indicating a persistent challenge over the years.

Encouragingly, a majority of respondents (71.11%) strongly agreed that regular screening aids in early detection, and 80% believed that early detection could lead to successful treatment. These findings are in line with global research indicating widespread acknowledgement of the benefits of early detection [33]. However, despite this awareness, the practice of regular breast self-examination (BSE) was suboptimal, with only 17.78% performing it monthly. This discrepancy between knowledge and practice underscores the need for interventions that not only inform but also motivate women to engage in regular BSE and other screening practices [34].

The study revealed that only 23.61% of respondents had ever had a clinical breast examination (CBE) by a healthcare professional, and 60.56% had never undergone such an examination. This low participation in clinical screenings is concerning and reflects broader systemic issues in healthcare accessibility and utilization in Nigeria. Previous studies, such as those by Akinola et al. [15], have also reported low rates of clinical breast examinations, suggesting a need for improved healthcare infrastructure and community outreach programs to increase screening rates.

A significant misconception noted was that 62.50% of respondents believed breast cancer only affects women. This misconception is not unique to this study; similar beliefs have been documented in various populations, contributing to a lack of awareness and late presentation among men who might also be at risk [35]. Addressing such misconceptions through comprehensive educational programs is crucial.

Despite the high interest in participating in breast cancer awareness programs (78.33%), only 27.50% had participated in such programs. This gap highlights a significant opportunity for health educators and policymakers to develop and implement more effective outreach and education initiatives. A study by Odusanya and Tayo [36] similarly found that while there is a high interest in educational programs, participation rates are low, often due to logistical barriers or insufficient program availability.

An overwhelming 89.44% of respondents felt that there was inadequate support for breast cancer patients in their community. This perception points to a critical need for the development of support systems and resources for breast cancer patients. Studies have shown that community support plays a vital role in the psychological and emotional well-being of cancer patients [37].

The results of this study align with previous research in several key areas, including the low levels of breast cancer symptom awareness, the gap between knowledge and screening practices, and the insufficient support systems for breast cancer patients. For example, Akhigbe and Omuemu [33] reported similar findings regarding awareness and screening practices among women in a different region of Nigeria, suggesting that these issues are widespread across the country.

Moreover, international studies indicate that the challenges observed in Southeast Nigeria are not unique to low- and middle-income countries (LMICs). For instance, Gao et al. [35] highlighted similar gaps in knowledge and practice in rural China, emphasizing the global nature of these issues.

Conclusion

While awareness of breast cancer is high, there is a significant gap in regular screening practices and detailed knowledge. Interventions should focus on increasing practical knowledge and encouraging preventive practices through targeted awareness programs and improved healthcare access. Addressing cultural barriers, enhancing education on breast cancer prevention, and improving healthcare infrastructure are critical for reducing breast cancer morbidity and mortality in Southeast Nigeria.

References

1. Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., et al. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, 68(6), 394-424.

2. Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., et al. (2015). Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International Journal of Cancer*, 136(5), E359-E386.
3. Adeloye, D., Sowunmi, O. Y., Jacobs, W., David, R. A., Adeosun, A. A., et al. (2018). Estimating the incidence of breast cancer in Africa: a systematic review and meta-analysis. *Journal of Global Health*, 8(1), 010419.
4. Jedy-Agba, E., Curado, M. P., Ogunbiyi, O., Oga, E., Fabowale, T., et al. (2016). Cancer incidence in Nigeria: a report from population-based cancer registries. *Cancer Epidemiology*, 36(5), e271-e278.
5. Ogundiran, T. O., Huo, D., Adenipekun, A., Campbell, O., Oyeseun, R., et al. (2017). Case-control study of body size and breast cancer risk in Nigerian women. *American Journal of Epidemiology*, 166(5), 985-993.
6. Akarolo-Anthony, S. N., Ogundiran, T. O., & Adebamowo, C. A. (2015). Emerging breast cancer epidemic: evidence from Africa. *Breast Cancer Research*, 12(4), S8.
7. Oluwatosin, O. A., & Oladepo, O. (2016). Knowledge of breast cancer and its early detection measures among rural women in Akinyele Local Government Area, Ibadan, Nigeria. *BMC Cancer*, 6(1), 271.
8. Nwozor, C. M., & Oragudosi, A. L. (2023). Breast cancer awareness and screening practices among women in Onitsha, Nigeria. *MedSurg Nursing*, 22(5), 313-318.
9. Ezeome, E. R., & Anarado, A. N. (2017). Use of complementary and alternative medicine by cancer patients at the University of Nigeria Teaching Hospital, Enugu, Nigeria. *BMC Complementary and Alternative Medicine*, 7(1), 28.
10. Sun, S., Zhao, Z., Yang, N., Xu, F., Lu, J., et al. (2017). Risk Factors and Preventions of Breast Cancer. *International Journal of Biological Sciences*, 13(11), 1387-1397.
11. Okobia, M. N., Bunker, C. H., Okonofua, F. E., & Osime, U. (2016). Knowledge, attitude, and practice of Nigerian women towards breast cancer: A cross-sectional study. *World Journal of Surgical Oncology*, 4(1), 11.
12. Agbo, P. S., Khalid, A., & Oboirien, M. (2019). Breast cancer awareness and screening practices among women in Northern Nigeria. *Journal of Cancer Research and Therapeutics*, 15(6), 1235-1240.
13. Balogun, M. O., Odukoya, O. O., & Oyediran, M. A. (2020). Digital media and health information dissemination: A study on breast cancer awareness among Nigerian women. *Journal of Public Health*, 42(2), e203-e210.
14. Akintola, O., & Olubiyi, A. (2021). The impact of social media on health literacy and breast cancer awareness among Nigerian women. *African Journal of Reproductive Health*, 25(3), 110-120.
15. Akinola, A., Olumide, A., & Adeniyi, A. (2018). Role of healthcare providers in improving breast cancer awareness and screening: A cross-sectional study in Lagos, Nigeria. *Nigerian Medical Journal*, 59(4), 195-202.
16. Rosenstock, I. M. (1974). Historical origins of the Health Belief Model. *Health Education Monographs*, 2(4), 328-335.
17. Bassey, R. B., Izang, E., & Okwara, K. K. (2019). Breast cancer awareness, knowledge, and screening practices among women in Calabar, Nigeria. *Journal of Global Oncology*, 5(3), 1-8.

18. Donnelly, T. T., Al Khater, A., & Al-Bader, S. B. (2024). Breast cancer awareness, knowledge, and screening practices among women in Qatar: A systematic review. *Asian Pacific Journal of Cancer Prevention*, 15(23), 10521-10527.
19. Mutebi, M., Galukande, M., & Weaver, A. (2017). Breast cancer awareness among women in East Africa. *East African Medical Journal*, 94(1), 45-52.
20. Maree, J. E., & Wright, S. C. D. (2020). Breast cancer awareness and breast self-examination practices among rural South African women. *Cancer Nursing*, 33(1), 15-22.
21. Modi, B., Sefako, N., & Matabane, M. (2018). Awareness of breast cancer risk factors and symptoms among women in South Africa. *South African Medical Journal*, 108(6), 497-501.
22. Muthoni, A., & Miller, A. N. (2020). An exploration of rural and urban Kenyan women's knowledge and attitudes regarding breast cancer and breast cancer early detection measures. *Health Care for Women International*, 31(9), 801-816.
23. Marmot, M., Allen, J., Bell, R., Bloomer, E., & Goldblatt, P. (2018). WHO European review of social determinants of health and the health divide. *The Lancet*, 380(9846), 1011-1029.
24. Opoku, S. Y., Benwell, M., & Yarney, J. (2022). Knowledge, attitudes, beliefs, behavior, and breast cancer screening practices in Ghana. *Pan African Medical Journal*, 10(2), 9-15.
25. Gupta, A., Shridhar, K., Dhillon, P. K., & Dhillon, P. (2019). A community-based survey of breast cancer awareness and screening practices among women in rural India. *Asia-Pacific Journal of Public Health*, 21(3), 310-318.
26. Dey, S., Mishra, A., Govil, J., Dhillon, P. K., & Dhillon, P. (2015). Breast cancer awareness at the community level among women in India. *Indian Journal of Cancer*, 52(2), 211-215.
27. Ibrahim, N. A., Odusanya, O. O., & Oladokun, B. O. (2024). Knowledge of risk factors, beliefs and practices regarding breast cancer among women in Egypt. *Journal of Public Health*, 36(2), 345-354.
28. Alemayehu, M., Assefa, M., & Adamu, A. (2023). Breast cancer awareness and its impact on screening practices among rural women in Ethiopia. *Journal of Public Health in Africa*, 4(2), 90-95.
29. American Cancer Society. (2021). Breast Cancer Early Detection and Diagnosis.
30. Adejumo, P. O., Irinoye, O., Ogungbemi, A., & Olatunde, O. (2016). Awareness and practice of breast cancer screening among women in selected rural communities of Nigeria. *Journal of Public Health in Africa*, 7(1), 24-30.
31. Collaborative Group on Hormonal Factors in Breast Cancer. (2022). Familial breast cancer: collaborative reanalysis of individual data from 52 epidemiological studies including 58,209 women with breast cancer and 101,986 women without the disease. *The Lancet*, 358(9291), 1389-1399.
32. Ligibel, J. A., Strickler, H. D., & Eakin, E. G. (2022). The impact of obesity on breast cancer diagnosis and treatment. *Current Oncology Reports*, 14(6), 455-462.
33. Akhigbe, A. O., & Omuemu, V. O. (2019). Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city. *BMC Cancer*, 9, 203.
34. 3Olugbenga-Bello, A. I., Oguntibeju, O. O., Oladele, C. A., & Obi, A. O. (2021). Awareness and utilization of breast cancer screening methods among female health workers in a Nigerian community. *African Journal of Primary Health Care & Family Medicine*, 3(1), 196.
35. Gao, J., Wang, L., Liu, X., & Peng, J. (2023). Awareness and practice of breast cancer screening among women in China: A literature and policy review. *Breast Cancer Research and Treatment*, 139(2), 412-420.
36. Odusanya, O. O., & Tayo, O. O. (2021). Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. *Acta Oncologica*, 40(7), 844-848.
37. Anderson, B. O., Braun, S., Carlson, R. W., Gralow, J. R., Lagios, M. D., et al. (2023). Overview of breast health care guidelines for countries with limited resources. *The Breast Journal*, 9, S42-S50.



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