

AWARENESS AND PERCEPTION OF BREAST CANCER AMONG WOMEN ATTENDING AHMADU BELLO UNIVERSITY TEACHING HOSPITAL, ZARIA, NIGERIA: A CROSS-SECTIONAL STUDY.

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Author's contributions

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ABSTRACT

Breast cancer remains a major global public health challenge, with annual incidence projected to exceed three million cases worldwide. In Nigeria, delay in health-seeking behavior for breast cancer is common and is largely associated with poor awareness and negative perceptions of the disease, leading to poor prognosis and increased mortality. This study assessed awareness, perception, and their influence on health-seeking behavior among women diagnosed with breast cancer attending Ahmadu Bello University Teaching Hospital Zaria. A cross-sectional descriptive design was adopted. The study population comprised 115 women diagnosed with breast cancer attending the oncology unit of the hospital. Participants were selected using a multistage sampling technique; while the hospital, oncology clinic and ward were purposively selected. Only consenting breast cancer patients were recruited for the study. Data were collected using a validated structured questionnaire containing 26 items in three sections. The instrument demonstrated acceptable reliability, with Cronbach's alpha coefficients ranging from 0.72 to 0.76. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 27 and summarized using descriptive statistics. Findings showed that 55.0% of respondents had good awareness of breast cancer, while 70.5% demonstrated positive perceptions toward the breast cancer and its management. The findings further shows that increased awareness and perception may contribute to better health-seeking behaviors, and adherence to recommended treatment. Government-led awareness campaigns through radio, television, social media, and local languages are recommended to sustain awareness and positive perceptions. Collaboration among government agencies, non-governmental organizations, professional bodies, religious institutions, community leaders, and healthcare providers is necessary to strengthen breast cancer control interventions and promote early detection, prompt treatment, and improved patient outcomes.

Key Words: Awareness, Perception, Breast Cancer, Health-Seeking Behaviour, Women, Cross-Sectional Study, Nigeria.

INTRODUCTION

Breast cancer remains one of the most significant global public health challenges affecting women and continues to account for substantial morbidity, mortality, and psychosocial burden worldwide. The most frequently diagnosed malignancy and a leading cause of cancer-related mortality among women worldwide. According to recent global cancer statistics, breast cancer is now the most commonly diagnosed cancer globally, with an estimated 2.3 million new cases and over 680,000 deaths annually (Bray *et al.*, 2024). Although breast cancer has historically been more common in high-income countries, its incidence is increasing rapidly across Africa. The burden of the disease is increasingly shifting toward low- and middle-income countries (LMICs), particularly in Sub-Saharan Africa, where weak health systems, limited screening services, and delayed diagnosis contribute to high mortality rates. The burden of breast cancer is increasing rapidly in sub-Saharan Africa owing to population growth, urbanization, increasing life expectancy, changing reproductive patterns, obesity, sedentary lifestyle, and other lifestyle transitions. Unlike high-income countries, where organized screening programmes facilitate early diagnosis, many African countries continue to record poor survival because a large proportion of women present with advanced-stage disease (Sung *et al.*, 2021; Awogbayila *et al.*, 2023). A systematic review of breast cancer in sub-Saharan Africa demonstrated late-stage diagnosis remains common throughout the region due to delayed health seeking behaviour and is a major determinant of poor clinical outcomes. Similarly, Nigeria has experienced a steady increase in breast cancer incidence, making it the most commonly diagnosed cancer among women and a leading cause of cancer-related mortality. Delayed presentation remains a major challenge, resulting in limited treatment options, increased healthcare costs, reduced survival, and diminished quality of life (Jedy-Agba *et al.*, 2016; Azubuike *et al.*, 2018). Delay in health seeking behavior remains a major challenge, with many patients presenting at advanced stages when treatment options are limited. This contributes to poor prognosis, increased treatment costs, and significant psychological distress. Studies have linked late presentation to poor awareness, cultural beliefs, fear of diagnosis, financial constraints, and limited access to healthcare services (Oladimeji *et al.*, 2021). Awareness and perception are widely recognized as important determinants of breast cancer prevention. Breast cancer awareness refers to an individual's knowledge of risk factors, symptoms, warning signs, screening methods, and available treatment options, whereas perception encompasses beliefs, attitudes, personal interpretations, and emotional responses toward the disease. Adequate awareness accompanied by positive perceptions has been associated with increased participation in screening programmes, earlier presentation to healthcare facilities, improved adherence to treatment, and better health outcomes. Conversely, inadequate knowledge, misconceptions, fear, and negative beliefs often discourage women from seeking timely medical attention, thereby contributing to advanced-stage diagnosis and poor prognosis. A recent Nigerian study reported that although awareness of breast cancer was generally high among women, significant deficiencies remained regarding risk factors, early symptoms, and regular breast self-examination practices, indicating the need for sustained educational interventions (Awogbayila *et al.*, 2023). Despite increasing breast cancer awareness campaigns across Nigeria, misconceptions and sociocultural barriers continue to influence health-seeking behaviour. Previous studies have shown that many women still associate breast cancer with spiritual causes, inevitable death, stigma, fear of mastectomy, or the use of traditional remedies before seeking hospital care. Financial hardship, poor access to specialist oncology services, inadequate referral systems, and limited availability of diagnostic facilities further contribute to delayed presentation. Evidence from intervention studies stated that improving awareness through community-based education can significantly enhance the uptake of breast cancer screening and early presentation, underscoring the importance of targeted health education programmes (Chigbu *et al.*, 2017). Women diagnosed with breast cancer often experience significant psychological and social challenges, including anxiety, depression, altered body image, fear of death, and social isolation. These experiences influence coping mechanisms, adherence to treatment, and quality of life (Iyanam *et al.*, 2024). Despite increasing cases of breast cancer, limited studies have assessed the awareness and perception of women diagnosed with breast cancer in the setting. This creates a significant gap in the evidence needed to guide targeted interventions. This study therefore seeks to assess the awareness and perception of women with breast cancer in Ahmadu Bello University Teaching Hospital Zaria, Nigeria.

OBJECTIVES OF THE STUDY

The objectives of the study were:

1. To assess the level of awareness of breast cancer among women attending ABUTH Zaria.
2. To determine women's perception towards breast cancer in ABUTH Zaria.

HYPOTHESES

H_0 : There is no significant relationship between awareness of breast cancer and delayed health-seeking behaviour among women with breast cancer.

H_0 : There is no significant relationship between women's perception of breast cancer and their health-seeking behaviour.

METHODS

The study was conducted in Ahmadu Bello University Teaching Hospital Zaria, on women with breast cancer. A descriptive cross-sectional study design was employed; Data were collected between July and November 2023. The inclusion criteria include only women diagnosed with breast cancer that gave informed consent and were recruited to be part of the study. While the exclusion criteria include those who had not been diagnosed with breast cancer, those who declined to provide informed consent, and those who were medically unstable to participate at the time of data collection were excluded from the study. Ethical clearance (ABUTHZ/HREC/F51/2023) was obtained from the Research and Ethics Committee at Ahmadu Bello University Teaching Hospital Zaria. Informed consent was obtained from all respondents before data were collected. Confidentiality and anonymity were strictly maintained. Respondents were also informed of their right to withdraw from the study at any time without any negative consequences. The sample size was determined using the formula proposed by Yamane (1967) for finite populations. The target population consisted of 150 patients over the study period, from which a sample size of 115 was drawn. A multistage sampling technique was employed to recruit study participants. First, ABUTH Zaria was purposively selected as a referral centre for specialized oncology services. Second, the oncology ward and oncology clinic/unit were purposively selected. Finally, women with a confirmed diagnosis of breast cancer who met the inclusion criteria were recruited into the study. Data were collected using a validated structured questionnaire comprising 26 items divided into three sections: socio-demographic characteristics, breast cancer awareness and perception of the disease. The instrument was validated for face and content validity by five experts. A pilot study was conducted to determine reliability, which produced acceptable coefficients of 0.74, and 0.72 across the respective sections using Cronbach's alpha. Data were analysed using SPSS version 27, with descriptive statistics such as frequencies and percentages were used to summarize and present the findings. Furthermore, linear regression was used to test the hypothesis.

RESULTS

Table 1: Distribution of Respondents by Level of Awareness of Breast Cancer (n=115)

Variables	Correct		Incorrect	
	Frequency	Percentage	Frequenc	Percentage
Symptoms of breast cancer	8	7.0	107	93.0
Benefits of early diagnosis and treatment	86	74.8	29	25.2
The forms of treatment	107	93.0	08	7.0
Common risk factors of breast cancer	43	37.4	72	62.6
Prognosis of breast cancer	91	79.1	24	20.9
Common investigations for breast cancer	103	89.6	12	10.4

Table 1 Show the responses on the level of awareness, eighty-six (86) and one hundred and seven (107) respondents representing (74.8%) and (93.0%) were aware of the benefits of early diagnosis and the common forms of treatment for breast cancer. Similarly, ninety- one (91) and one hundred and three (103) respondents, representing 79.1% and 89.6% were aware of prognosis of breast cancer and common forms of investigations for breast cancer.

Table 2: Distribution of Respondents by Perception of Breast Cancer (n=115)

Variable	Mean	Standard Deviation
Breast cancer can re-occur	3.50	1.235
Breast cancer runs in the family	3.33	.987
Breast surgery will make me lose my breast	3.00	.882
Losing my breast will make me an incomplete woman	2.41	.853
Having a mammogram is very embarrassing	2.16	1.024
Breast cancer is like a death sentence	2.03	.842
Breast cancer is best treated traditionally	2.03	.827
Breast cancer is incurable	1.82	.928
Breast cancer is cause by evil spirits	1.65	.999
Breast cancer is for older women	1.63	.856
Breast cancer is cause by my enemies	1.65	.864
Aggregate mean score	2.31	0.94

Decision Mean: any mean < 2.5 is positive perception (rejecting the myths mean positive perception) while any mean ≥ 2.5 is Negative perception (accepting the myths mean negative perception). The above table show majority of the breast cancer myths were rejected with mean scores of 2.4, 2.2, 2.0, 1.8 and 1.6 while only three items were accepted with the mean scores of 3.5, 3.3 and 3.0 respectively. The highest mean score of 3.5 that cancer can reoccur while the lowest mean score of 1.6 that breast cancer is caused by evil spirit and enemies, with the aggregate mean of 2.31.

Testing of Hypotheses

The following null hypotheses were formulated and tested at 0.05 significant difference. There is no significant relationship between awareness of breast cancer and delayed health-seeking behaviour among women with breast cancer. To test this hypothesis, linear regression was used, and the results are presented in the table below

Table 3a: Linear Regression Model Summary on the Relationship of the Level of Awareness about Breast Cancer and Delayed Health Seeking Behaviour of women with breast cancer

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316 ^a	.100	.092	3.995

Predictor: (Constant), level of Awareness

The above table shows the regression model summary for the independent variable (level of awareness) and the dependent variable (delayed behaviour of women with breast cancer). The result shows $r = .316^a$, $r^2 = .100$. The r^2 of 0.100 approximately indicated that only 10.0% of the total variation in the delayed Health-seeking behaviour of women with breast cancer can be attributed to the level of awareness. The regression coefficient is presented in Table 3b below.

Table 3b: Linear Regression Coefficient on the relationship between level of awareness and delayed health seeking behaviour

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	
1 Constant	21.973	3.469		6.334	.000
Level of awareness	0.563	0.159	0.316	3.543	.001

Dependent Variable: Delay Health-Seeking Behaviour

Table 3b shows the regression coefficient of the level of awareness and delayed health-seeking behaviour. The result shows that the level of awareness was a significant predictor of delayed-health seeking behaviour ($B = .316$, $t = 3.543$, $p (0.001) < 0.05$). The findings indicated that the standard Beta coefficient for the level of awareness was positive and statistically significant. Therefore, the hypothesis was rejected. The data also show that any increase in one unit of awareness will cause an increase of 0.563 units of health-seeking behaviour

Hypothesis Two: There is no significant relationship between the perception of women and their level of awareness in health-seeking behaviour of women with breast cancer. To test this hypothesis, Linear regression was used, and the results are presented in the table below

Table 4a: Linear Regression Model Summary on the Relationship Perception of Women and their Level of Awareness in Health seeking Behaviour of Women with Breast Cancer

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.117 ^a	0.014	0.005	2.351

Predictor: (Constant), Perception

The above table shows the regression model summary for the independent variable (perception) and the dependent variable (level of awareness in health-seeking behaviour of women with breast cancer). The result shows $r = .117^a$, $r^2 = .014$. The r^2 of 0.014 approximately indicated that only 1.0% of the total variation in the level of awareness can be attributed to the respondents' perception of breast cancer. The regression coefficient is presented in Table 4b below.

Table 4b: Linear Regression Coefficient on the relationship between Perception and the Level of awareness in Health seeking behaviour of women with breast cancer

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	20.187	1.245		16.210	.000
Perception	0.061	0.049	.117	1.252	.213

Dependent Variable: Awareness

The Table 4b shows the regression coefficient of perception and level of awareness. The result shows that perception was not a significant predictor of the level of awareness in health-seeking behaviour of women with breast cancer ($B = .117$, $t = 1.252$, $p (0.213) > 0.05$). The findings indicated that the standard Beta coefficient for perception was positive and statistically not significant. Therefore, the hypothesis was retained. The regression coefficient indicated that for any increase in one unit of perception will predict 0.61 units of level of awareness in the health-seeking behaviour of women with breast cancer.

DISCUSSION

The findings on awareness revealed respondents generally demonstrated good level of awareness, most respondents correctly identified that persistent cough is not a symptom of breast cancer. Regarding the benefits of early diagnosis and treatment, the majority understood that prolonged hospital stay is not one of the benefits and that early diagnosis give better outcome. In terms of treatment options, majority of the respondents were aware that antibiotics are not a standard treatment for breast cancer. Concerning risk factors, the majority perceived heredity as the most common risk factor for breast cancer. Additionally, most respondents recognized that cancer can be cured and that pregnancy tests are not commonly used in breast cancer investigations. A good level of awareness suggests that respondents may be better prepared to cope with the challenges associated with breast cancer treatment. These findings align with Awogbayila *et al.* (2023) in Nigeria who reported high awareness of breast cancer among women, although participation in screening practices remained inadequate. Similarly, Osei-Afriyie *et al.* (2021) in Ghana reported high awareness of breast cancer and its risk factors among students, although screening practices remained suboptimal. The findings disagree with Funga and Dilebo (2022) in Ethiopia, who found low awareness of breast cancer among women, particularly regarding warning signs, risk factors, misconceptions about breast cancer and screening methods. Hindmarch *et al.* (2023) in the United Kingdom observed that many young women had inadequate awareness of breast cancer symptoms and lacked confidence in monitoring their breast health.

The findings on perception revealed that the women held positive perceptions of breast cancer, as common myths and misconceptions were largely rejected. Such positive perceptions may enhance adherence to is likely to promote greater acceptance of evidence-based treatment and follow-up care. These findings disagree with Iddrisu *et al.* (2020) in Ghana found that women diagnosed with breast cancer perceived the disease as emotionally traumatic, characterized by fear, depression, stigma, and altered body image. Similarly, Kugbey *et al.* (2020) in Ghana stated that women viewed breast cancer through both medical and spiritual perspectives, often relying on faith and social support for coping. They perceived breast cancer treatment as physically, emotionally, financially burdensome and concerns about social acceptance of breast cancer diagnosis, which influenced their treatment experiences and coping strategies. Additionally, Mossa (2022) found that young women demonstrated low perception of breast cancer and poor participation in breast self-examination, indicating inadequate perception of personal risk and the need for targeted awareness interventions.

The hypothesis testing showed that awareness of breast cancer was a statistically significant predictor of delayed health-seeking behaviour ($p = 0.001 < 0.05$), leading to the rejection of the null hypothesis. Although awareness explained only a modest proportion of the variation in delayed health-seeking behaviour ($R^2 = 0.10$), the finding suggests that awareness is an important determinant of healthcare-seeking decisions. This finding aligns with Agodirin *et al.* (2021) who reported that inadequate breast cancer knowledge, poor awareness of symptoms, and limited participation in breast self-examination contributed to delayed detection and advanced-stage diagnosis among women with breast cancer in Nigeria. Similarly, Wendimu *et al.* (2024) found that low awareness; misconceptions about breast cancer, and poor access to healthcare were major contributors to delayed presentation among women with breast cancer in Ethiopia. Likewise, Agodirin *et al.* (2017) stated that although general awareness of breast cancer was relatively high in Nigeria, knowledge of warning signs and the practice of early detection behaviours remained inadequate, contributing to delayed healthcare utilization.

The second hypothesis testing show there was no statistically significant relationship between women's perception of breast cancer and their level of awareness ($p = 0.213 > 0.05$); therefore, the null hypothesis was retained. Although the relationship was positive, it was not statistically significant; suggesting that perception alone does not significantly influence women's awareness of breast cancer. This finding is consistent with Agodirin *et al.* (2017), who stated that awareness alone does not necessarily translate into appropriate screening behaviour or timely healthcare-seeking, indicating that other factors beyond perception influence awareness and practice. Similarly, Shimels *et al.* (2025) reported that perception alone was insufficient to improve breast cancer awareness, emphasizing that structured health education were required to significantly enhance women's knowledge and preventive practices.

CONCLUSION

This study assessed the awareness and perception of women with breast cancer attending Ahmadu Bello University Teaching Hospital, Zaria. The findings revealed respondents generally demonstrated good awareness and positive perceptions of breast cancer. Furthermore, awareness was a significant predictor of delayed health-seeking behaviour, highlighting its critical role in promoting timely healthcare utilization, whereas perception was not significantly associated with awareness.

LIMITATION OF THE STUDY

The use of a cross-sectional study design limits the ability to establish causal relationships between the study variables, as data were collected at a single point in time. Consequently, the observed associations between awareness, perception, and delayed health-seeking behaviour should not be interpreted as evidence of causality. Furthermore, because the study was conducted in a single tertiary healthcare hospital, the findings may not be generalizable to all women with breast cancer. Additionally, respondents' stage of breast cancer at diagnosis, cultural background, and level of education may have influenced their awareness, perceptions, and responses to the questionnaire, thereby introducing the potential for information and response bias.

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