



CLINICAL PRESENTATION OF BREAST CANCER IN A TERTIARY HEALTH FACILITY IN THE NIGER DELTA REGION OF NIGERIA: A THREE-YEAR EXPERIENCE OF PRACTITIONERS

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Abstract

Introduction: In the year 2022, breast cancer accounted for 11.6% of all cancers, trailing lung cancer (12.4%). The aim of this study was to evaluate the clinical presentation of breast cancer patients in a tertiary health facility over a three-year period.

Methods: A hospital-based longitudinal study was carried out in breast clinic of a tertiary healthcare centre among patients who had breast cancer. Data was collected using a proforma, and data was analysed using United States CDC Epi- Info version 7 for statistical analysis. Categorical variables were presented as counts/percentages, and Spearman's correlation for correlation.

Results: The mean age of patients was 43.13 ± 11.60 years, and the median parity was 3.00. Thirty-nine (63.9%) had breast lumps, and 10 (16.4%) had breast swelling as a presenting symptom. The mean duration of symptoms was 1 year. Twenty-four patients (39.3%) had no reason for late presentation, 15 (24.6%) due to ignorance, 13 (21.3%) due to inappropriate medical attention, and others were religion, self-medication, fear of mastectomy, financial constraints, lack of time, and use of native treatment. The majority of the patients ($n = 34$; 55.7%) were seen at stage III disease, and there was no statistically significant relationship between the duration of symptoms and clinical staging of the disease.

Conclusion: We report breast cancer occurrence mostly among relatively young multiparous, women, who had a mean symptom duration of 1 year, with the majority having stage III disease. There is a need for some form of regulation on cancer care to improve outcomes.

Keywords: Clinical Presentation, Reasons for Pattern, Breast Cancer, Port Harcourt, Nigeria.

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INTRODUCTION

In the year 2022, breast cancer accounted for 11.6% of all cancers, trailing lung cancer (12.4%).¹ However recently, among all cancer afflicting human population, breast cancer is now acclaimed as the most common,²⁻⁴ attracting the attention of world global bodies, national governments, non-governmental organizations and individuals. A significant global increase in breast cancer was observed from 1990 to 2019,⁵ and metastatic breast cancer were more in Sub-Saharan Africa in the range of 5.6% to 30.6% compared with 0.0% to 6.0% in North America.⁶ There are multiple known risk factors (both modifiable – environmental; and non-modifiable – age, gender, and family history) whose occurrence may vary from one geographical region to another.^{4,7} Presence of mutant genes (BRCA 1, BRCA 2) have the potential of increasing the risk of occurrence of breast cancer by 80%.^{4,8}

Triple assessment involving detailed history and clinical (breast) examination, imaging studies, and histologic evaluation of suspicious lesions are necessary for diagnosis of cancers, including breast cancer.² Determination of the immunohistochemical characteristic of the tumor is also very important for modern treatment and good outcome. The care for breast cancer is multimodal and multidisciplinary, hence use of surgery (mastectomies), chemotherapy, radiotherapy, immunotherapy, and hormonal therapy are established modalities of treatment for breast cancer.⁹⁻¹⁴ As in other cancers, dysregulation in the pathways controlling cell proliferation and apoptosis,² and functional alteration of cyclin-dependent kinases among others are associated with the development/proliferation of breast cancer.^{15,16} Efforts at inhibiting the first, second and third generations of cyclin-dependent kinases can augment other therapies.^{9,16,17}

As reported about five years ago, unlike the observations in high-income countries, the clinical profile of breast cancer in Africa show some differences: lower age at presentation - 35 and 45 years in West Africa;¹⁸ higher stage at presentation – advanced stages of the disease;¹⁸ different receptor status – hormone-receptor negative and triple-negative;¹⁸ subtle difference in surgical management – primary modality for local control in early, advanced and metastatic disease.¹⁸ Equally reported about breast cancer in Africa were variation in choice of surgery – the most common surgery being mastectomy;^{18,19} some variation in quality of surgery – limited number of trained oncologists following political and economic instability and consequent brain drain;^{18,20} poor compliance to surgery – multiple reasons including lack of

awareness, financial constraints and illiteracy;^{18,21-24} etc. In other words, unique tumour characteristics, economic factors, political misgovernance, knowledge factors and religion affect the quality of care of breast cancer in Africa. In Asian population, hormone positive breast cancer is known to be common,^{4,25,26} whereas triple negative types are prevalent in Africa/African-Americans.^{11,18,27,28} A multicenter cancer registry-based Turkish study which analyzed 1382 patients with metastatic breast cancer, found triple negative breast cancer comprising 51.7% of the study population, and the median overall survival of all patients was 51.0 (48.0–55.0) months.²⁹ The incidence, mortality, burden of disability-adjusted life years of breast cancer vary from country to country,³⁰ with increasing incidence in developing countries.³¹ Variations in clinical profile may therefore occur within the same country,^{28,32} the knowledge of which is important in guiding therapy and advocacy. This study therefore evaluated the clinical presentation of breast cancer patients in a tertiary health facility over a five-year period (from July 2016 to June 2019).

MATERIALS AND METHODS

Research Design: A hospital-based longitudinal study was done.
Study Area: The study was carried out in Port Harcourt, the Capital city of Rivers State in Nigeria.
Study Sites: The breast clinic and the female surgical ward of the Department of Surgery of the Hospital.
Study Population: Patients who were diagnosed with breast cancer at the Surgery Department of the University of Port Harcourt Teaching Hospital from July 2016 to June 2019.
Sample Size Determination: Total population of breast cancer patients within the study period was used.
Study Instrument: A proforma was developed and used to obtain data from clinic and ward registers, and patients' case notes.
Data management: Data on clinical presentation (presenting symptoms, duration of symptoms and clinical staging) and reasons for delay in hospital presentation characteristics were obtained using a structured proforma. Time interval from symptom onset to hospital presentation of greater than 7 days was regarded as delayed hospital presentation. Retrieved data were entered into Microsoft Excel and exported to United States CDC Epi- Info version 7 for statistical analysis.
Data Analysis: Data was tested for normality using Kolmogorov-Smirnov (K-S) statistics. Normally distributed data was summarized using means and standard deviation, otherwise medians and ranges were employed. Categorical variables were presented as counts and percentages. Non-parametric Spearman's



correlation was used to determine the correlation between duration of symptoms and clinical staging. A p-value of less than 0.05 was considered statistically significant.

Validity/Reliability of Instrument: All the authors verified the data before usage.

RESULTS

A total of 61 patients who were all females were involved in the study. The patients' age ranged from 20 – 75 years, and the mean was 43.13 ± 11.60 years. The median parity of the patients was 3.00, with parity range of 0 to 10.

Table I: Symptoms experienced by patients in the study

Symptoms*	Frequency	Percentages (%)
Breast lump	39	63.9
Breast ulceration	7	11.5
Breast swelling	10	16.4
Breast mass	8	13.1
Breast pain	4	6.6
Bloody nipple discharge	3	4.9
Axillary swelling	2	3.3

*Multiple responses apply

Table I shows the symptoms experienced by patients. Thirty-nine (63.9%) had breast lump, 10 (16.4%) had breast swelling, 8 (13.1%) had breast mass, 7 (11.5%) had breast ulceration. Other less frequent symptoms were breast pain, bloody nipple discharge, and axillary swelling.

Table II: Duration of symptoms

Symptoms	Frequency	Percentages (%)
Less than 6 months	22	36.1
6 months - < 1 year	12	19.7
1 - < 4 years	23	37.6
> 4 years	2	3.3
Not specified	2	3.3
Total	61	100.0

Table II shows the duration of symptoms of breast cancer patients at the time of diagnosis. The duration of symptoms ranged from 2 weeks to 7 years, and the mean was 1 year. Twenty-three (37.6%) were seen within 1-4 years of symptoms, 22 (36.1%) presented less than 6 months of the occurrence of symptoms, and 12 (19.7%) came when there had been symptoms for 6 months to 1 year.

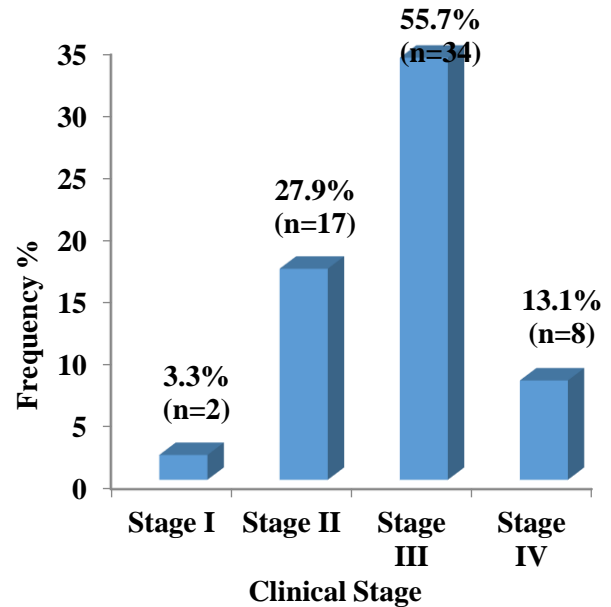


Figure. 1: Clinical staging of patients with breast cancer in the study

Figure 1 shows the clinical staging of patients with breast cancer at the time of diagnosis. Majority of the patients (n = 34; 55.7%) were seen at stage III disease. This was closely followed by stage II (n = 17; 27.9%), and stage IV disease (n = 8; 13.1%).

Table III: Correlation between duration of symptoms and clinical staging

Duration of symptoms	Clinical staging of breast cancer	
	Spearman's correlation coefficient	p-value
Duration of symptoms	0.234	0.074

Table III shows the correlation between the duration of symptoms and clinical staging. There was no statistically significant relationship between the duration of symptoms and clinical staging of the disease.

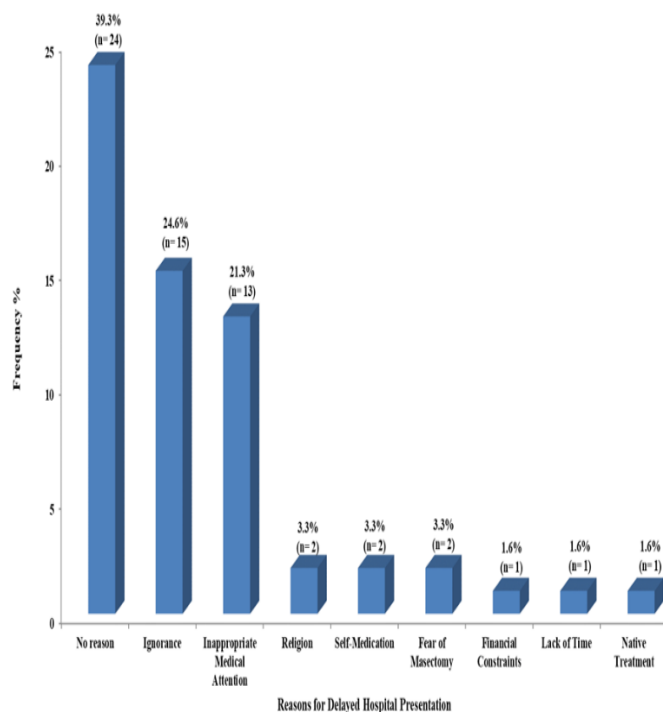


Figure 2: Reasons for delayed hospital presentation among breast cancer patients

The reasons for delayed hospital presentation among breast cancer patients is shown in figure 2. Twenty-four patients (39.3%) had no reason for late presentation, 15 (24.6%) delayed due to ignorance, 13 (21.3%) was due to inappropriate medical attention, 2 (3.3%) was due to religion, and others were self-medication, fear of mastectomy, financial constraints, lack of time, and use of native treatment.

Discussion

Modern care of patients who have breast cancer involves a lot of input from the society, the healthcare personnel, and relatives – (especially so in African setting where insurance is limited), and the patients. These factors blend as if in apparent conspiracy to determine patients’ access to hospital services, eventual response to the triple assessment needed for diagnosis of breast lesions, and adoption of treatment measures prescribed. This complex interaction is also captured in the reports of other researchers.³³ The same factors may partly explain the clinical picture of patients presented in this study. The mean age of the patients was 43.13 ± 11.60 years, although there were patients who had the disease at early age of 20 years and old age of 75 years, and their median parity was 3. Our finding is in agreement with the global observation of a decade younger age prevalence in low and

medium-income/developing countries.³³⁻³⁵ Our finding is also comparable to the observations of other Nigerian researchers.³⁶⁻⁴⁰ A median parity of 3, is different from the globally observed nulliparity associated with breast cancer, and show similarity with the findings among African women.⁴¹⁻⁴³

Almost two-third of the patients presented with breast lump. Less than a fifth had breast swelling or breast ulceration, while others had less frequent symptoms like breast pain, bloody nipple discharge, and axillary swelling. These findings share similarity with other researches where breast lump/mass was reported as the dominant presenting complain for breast cancer.⁴⁴⁻⁴⁸ However, our finding differs from a study in Nigeria that reported pain occurring in 47% of patient population - making it the most common symptom.⁴⁹ It is worthy of note that in that study where pain was found as the dominant presenting symptom, 80.6% of patients had advanced disease (stage III & IV) and premenopausal women were 66.7% of the whole study population. This is the group in whom poorly differentiated fast-growing tumours are found,⁵⁰⁻⁵² which may explain why pain was the dominant symptom in that study.

The mean duration of symptoms of 1 year seen among our patients means that most patients had to delay for that long before seeking appropriate medical consultation and treatment. It is not surprising therefore why more than half of the patients had stage III disease. This finding is higher than the 4 months reported in a South-Western Nigeria study reported in 2015, and another in 2024.⁵³ However, other studies in Nigeria also share similarity with our finding of about a year mean symptom duration.^{47, 49, 54} Breast cancer patients in developed countries present for care relatively early, as exemplified by a mean duration of symptoms of 191.0±242.6 days in a Japanese study.⁵⁵ Therefore, in most western studies the mean duration of symptoms is often not emphasized. However, African American women are reported to be more than three times as likely to experience delayed presentation than their white counterparts.⁵⁶ The reasons for this delay vary in different societies. More than a third of our patients had no reason to account for the delay in hospital presentation. Ignorance and inappropriate medical attention were reasons given by more than a fifth of the patients for the delay in seeking for due diagnosis and treatment, while others were self-medication, fear of mastectomy, financial constraints, lack of time, and use of native treatment. Our findings align with reports from some breast cancer patients in India,⁵⁷ and some parts of Africa.⁵⁸⁻⁶⁰ Ignorance among others has been severally reported as a dominant reason for delayed presentation of breast cancer in Nigeria,^{61, 62} and some other low-income countries.^{58, 63, 64} However, our observation of



“no reason” as being a reason for delayed presentation of breast cancer seem to be an unusual study finding.

No statistically significant relationship was demonstrated between the duration of symptoms and the clinical staging of the disease. This implies that there is some form of unpredictability of the stage of the disease irrespective of the duration, as not all breast cancer has the same histologic type and tumor grade. The tumor grade particularly informs why a patient who presented within six months of onset of the disease may have advanced disease while another who delayed for about a year before specialist consultation and diagnosis may have early disease. Our findings differ in statistical significance from the observations in other studies where diagnostic delay had a direct and consistent relationship with some indicators of clinical disease staging,^{65, 66}

Study Limitations: The small number of patients in the study is a limitation.

Conclusion: Breast cancer in our centre mostly occurred among relatively young women who were multiparous. The most common symptoms were breast lump, breast swelling, and breast ulceration. More than a third of our patients presented to the hospital within 1-4 years, and less than six months of onset of symptoms respectively, by which time the majority of them were already stage III disease. Unfortunately, “no reason” and “ignorance/inappropriate medical attention” were responsible for most cases of delayed hospital presentation. Less than 5% of the patients presented with stage I disease and no statistically significant relationship was observed between the duration of symptoms and clinical staging of the disease. There is a need for some form of regulation on breast cancer care and increased citizen advocacy to improve outcomes, since “no reason” and “inappropriate medical attention” were mostly responsible for delayed presentation.

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