ISSN1597-4292

DEMOGRAPHIC AND CLINICAL PROFILE OF PATIENTS DIAGNOSED WITH BREAST CANCER IN PORT HARCOURT: IMPLICATIONS FOR TARGETED SCREENING

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ABSTRACT

Background: *The role of risk factors in breast cancer mortality has been reported. Statistics on breast cancer differ from region to region. Our unique regional characteristics, therefore, could be harnessed for future care. This study aims at determining the demographic and clinical profile of patients diagnosed with breast cancer from July 2016 to June 2019 in Port Harcourt and their implications for targeted screening.*

Method: *This descriptive retrospective study was carried out at the breast clinic and general surgery wards of a tertiary healthcare facility using the medical records of all patients with histologically confirmed breast cancer seen between July 2016 and June 2019. Data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0.*

Results: *The median age at diagnosis of breast cancer was 41.0 years with a range of 20 – 75 years. The median age at menarche was 14.0 years. Most of the patients, 47 (77.1%) presented with duration of symptoms of ≤12 months. The most common stage at presentation was stage III cancer.*

Conclusion: *The relatively younger age at presentation/diagnosis of breast cancer in our subregion could be a strong and viable reason for advocacy for early commencement of age-targeted breast cancer screening from 25 years.*

Keywords: *Demographic profile, Clinical profile, Breast cancer, Implications for Targeted Screening, Port Harcourt.*

INTRODUCTION

The global burden of cancer was estimated to be 18.1 million new cancer cases and 9.6 million cancer deaths in 2018, and breast cancer was reported as the most commonly diagnosed cancer and leading cause of cancer death among women.[1] The 2018 report puts the global number of new cases

ISSN1597-4292

of breast cancer at 2,088,849 (11.6% of all new cases of cancer), and breast cancer deaths at 626,679 (6.6% of all cancer deaths).[1] A recent review of the global epidemiological characteristics of breast cancer reveals significant variation with race and ethnicity, with rising incidence and higher mortality among the less developed nations.[2] Female breast cancer incidence rate in Nigeria is reported to be 36.3 to 50.2/100,000 live births.[3,4]

The role of risk factors in breast cancer mortality has been reported – geographic location[5], radiation[6], parity[5], body build[7], diet[8], stage at presentation[5], grade of tumour[7], age at detection[7], systemic endocrine therapy[7], reproductive factors[9], comorbidity, and hospice care.[10] However, a study done among women from Nigeria, Cameroon, and Uganda did not support these findings.[11]
In a random screening of 3000 women for clinical palpable breast lumps, a Ghanaian study reported that 23 (0.76%) out of 194 (6.46%) clinically palpable lumps were diagnosed with breast cancer and about 30% of them were below 35years of age.[12] The role of occupation in breast cancer mortality has been studied. While increased breast cancer mortality was reported among women "executives" and "administrative support staff" in the United State of America[13], a similar study in Nigeria[3] could not support such findings. Findings on the role of education in breast cancer mortality has rather been inconsistent.[14-16]

Statistics on breast cancer differ from region to region. The unique features of breast cancer presentation among Asian women has influenced future prevention and management strategies in that region.[17] Reviews of the risk factors for breast cancer in Africa shows some uniqueness with greater number occurring in premenopausal women.[18-20] There have been several studies on risk factors of breast cancer in Nigeria[21-32], with emphasis on rising incidence and changing demographic profile. Late presentation, invasive ductal carcinoma, triple negativity with poor prognosis, especially among our younger patients are common features in our Nigerian breast cancer patients.[33-39] However, a Nigerian study reported in 2008 found no difference in the immunohistochemistry pattern of African breast cancer patients compared to other populations.[40] Also, another Nigerian study found a strong correlation of immunohistochemistry characteristics with age, tumor grade, tumor size and lymph node status.[41] This study aims at determining the demographic and clinical profile of patients diagnosed with breast cancer in our center and their implications for targeted screening.

ISSN1597-4292

METHODOLOGY

This descriptive retrospective study was carried out at the breast clinic and general surgery wards of the University of Port Harcourt Teaching Hospital, a tertiary healthcare facility in Port Harcourt, Nigeria. The approval of the Research Ethics Review Committee of the University of Port Harcourt Teaching Hospital was sought and obtained. The medical records of all patients with histologically confirmed breast cancer within the study period, between July 2016 and June 2019, who formed the study population were included in the study. Data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. The parameters analyzed included age at diagnosis, age at menarche, age at menopause, parity, family history, duration of symptoms, and clinical stage.

RESULTS/ANALYSIS

Table 1: Median Age at Diagnosis, Menarche, and Menopause; and Parity

Variables	Median	Range
Age at diagnosis	41.0years	20 – 75years
Age at menarche	14.0years	12 – 18years
Age at menopause	51.5years	44.0 – 55.0years
Parity	3.0	0 – 10

Table 1 shows that the age at diagnosis is rather young. Also, the median age at menarche is not early, and the median age at menopause is not late. The median parity of three (3) suggests that many of the patients were not nulliparous.

Table 2: Family History and Duration of Symptoms of Patients with Breast Cancer

Findings (N= 61)	n	%
Family History (Breast Cancer)		
Nil	58	90.1
Mother	1	1.6

ISSN1597-4292

Sister	1	1.6
Aunt	1	1.6
Duration of Symptoms		
<6 Months	22	36.1
6 – 12 Months	27	44.2
13 – 18 Months	2	3.3
19 – 24 Months	5	8.2
> 24 Months	5	8.2

In Table 2, majority of the patients (90.1%) did not have any family history of breast cancer. A significant number of patients had symptoms that lasted less than twelve (12) months before presentation.

Table 3: Breast characteristics of patients with breast cancer

Findings (N= 61)	**n**	**%**
Presenting Complaint		
Right Breast Lump/Mass	19	31.2
Left Breast Lump/Mass	24	39.3
Lump in both Breast	1	1.6
Location of Breast Lump		
Upper Outer	25	41.0
Upper Inner	6	9.8
Lower Outer	7	11.4
Lower Inner	7	11.4
Peri-areolar	3	4.9
Whole Breast	11	18.0
Upper Outer + Lower Outer	1	1.6
Lower Inner + Peri-areolar	1	1.6
Nipple Discharge		
Nil	50	81.9

ISSN1597-4292

Bloody	3	4.9
Serous	4	6.6
Milky	2	3.3
Yellowish	2	3.3
Symmetry of breast		
Asymmetrical	38	62.3
Symmetrical	23	37.7

Table 3 displayed frequencies for breast characteristics of patients with breast cancer. Left breast lump/mass was the most frequent presenting complaint being 24 (39.3%) compared with right breast lump/mass which was 19 (31.2%) and 1 (1.6%) for lump/mass in both breasts. The upper outer quadrant was the most frequent location – 25 (41.0%) followed by the whole breast – 11 (18.0%), then the lower outer – 7 (11.4%) and lower inner – 7 (11.4%) quadrants.

Bloody nipple discharge was not noticed in most of our patients. Breast asymmetry was a significant finding.

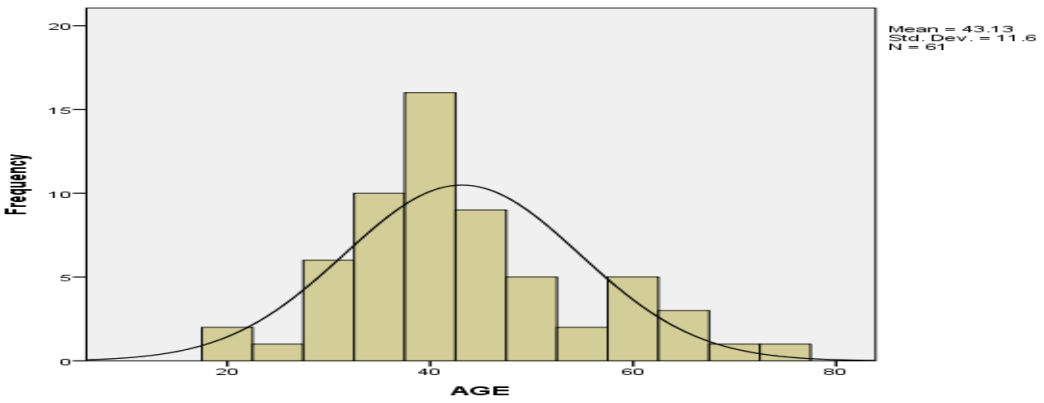

Figure 1: Frequency distribution of ages of the patients

ISSN1597-4292

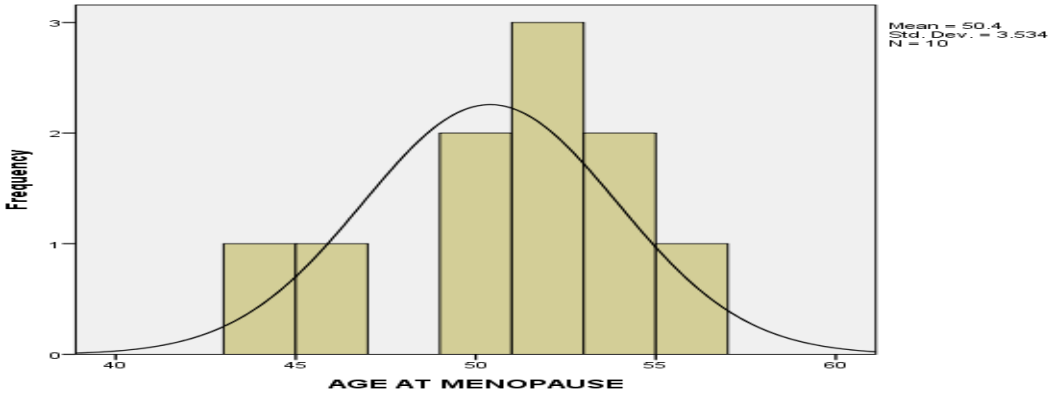

Figure 2: Frequency distribution of age at menopause

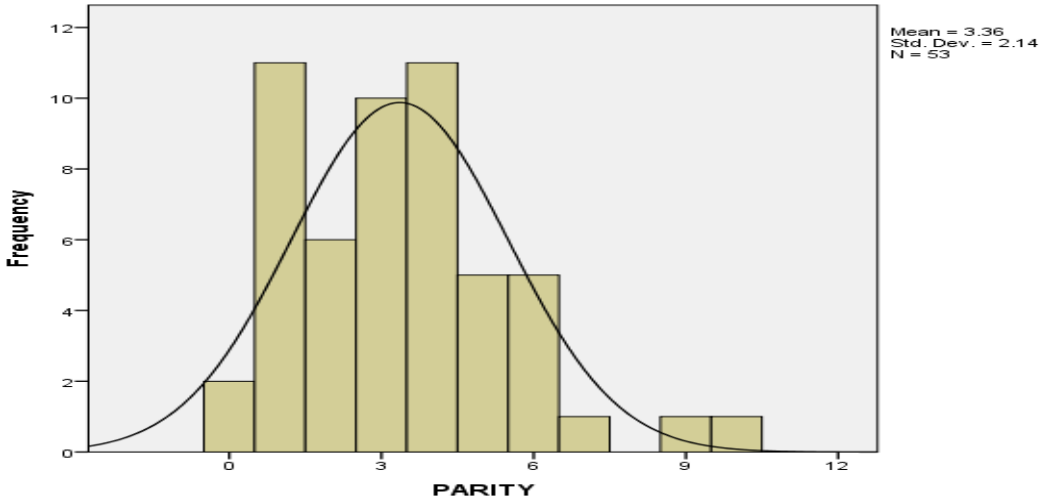

Figure 3: Frequency distribution of parity of the patients

ISSN1597-4292

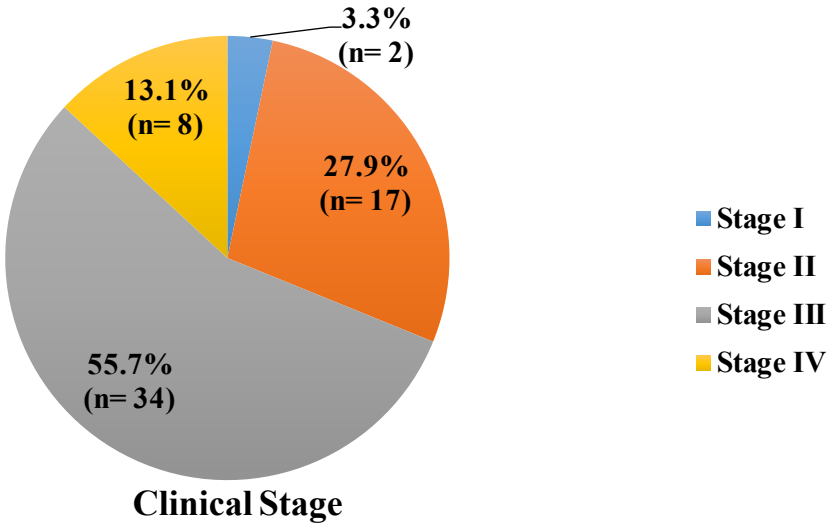

Figure 4: Clinical staging of patients with breast cancer

The most common stage at presentation was stage III cancer – 34 (55.7%), followed by stage II cancers – 17 (27.9%), and then stage IV – 8 (13.1%). Stage I cancers were the least – 2 (3.3%) in this series.

DISCUSSION

The median age at diagnosis (and range), median age at menarche, median parity of patients, median age at menopause described in this study are similar to some reported earlier studies.[26, 28, 33, 42-48] The median age/range at diagnosis is lower in this study when compared to some studies outside our region in Iran in the Middle-East, the United States, and the United Kingdom.[49-52] Targeted breast cancer screening has been the subject of interest in some research works.[53-55] Age-targeted and density-targeted screening strategies have been mentioned in literature.[56] Kinome screening for new therapeutic target has also been described for breast cancer[57]. Targeting younger age groups in our breast cancer screening program seems to be a viable option since our patients have a lower age at presentation/diagnosis. Also, age-targeted screening strategies have cheaper outlook, compared to all-digital mammography or screening services.[56]

In most of the patients in this study there was no significant family history of breast cancer, so screening patients' families for cancer may not be rewarding in our setting. Late presentation is

ISSN1597-4292

evidenced in this study as in most developing countries of the world.[33, 44-48, 58, 59] It has been noted in a few studies in our subregion that most of those who present early have triple negative and aggressive tumours.[24, 29, 60, 61]

Similar clinical characteristics of breast cancer observed in this study have been reported in earlier studies, and emphasize the occurrence of features of advanced disease in our subregion more than in developed climes.[33, 62-64] Applying age-targeted screening programs using the protocol adopted from advanced countries (usually 35-40years) may not be outrightly suitable in our setting.

CONCLUSION

The demographic and clinical characteristics of breast cancer in this study, just like others in our subregion, demonstrate some differences when compared with features seen in developed climes. Late presentation and late stage disease are also featured in this study. It appears therefore that the relatively younger age at presentation/diagnosis of breast cancer in our subregion could be a strong and viable reason for advocacy for early commencement of age-targeted breast cancer screening from 25 years, especially because early onset of breast cancer is associated with increased aggression. This seems reasonable as it will accommodate our younger patients, and have a secondary benefit of improving early detection and likely reduce the occurrence of late stage disease.

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