Original Article

Prevalence and Pattern of Late-Stage Presentation in Women with Breast and Cervical Cancers in Lagos University Teaching Hospital, Nigeria

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Abstract

Background: Cervical and breast cancers are the most common cancers among women in developing countries contributing to high morbidity and mortality. Even though both these cancers have a better prognosis if caught early; however, studies conducted in Nigeria still show a large incidence of late tumor stage presentation. **Objectives:** This study aimed at identifying the patient and disease characteristics of women with breast and cervical cancers presenting at a tertiary medical facility in Nigeria, with emphasis on the prevalence of late-stage presentation and reasons for late-stage presentation. **Patients and Methods:** This cross-sectional study recruited women at Lagos University Teaching Hospital (LUTH) with breast and cervical cancers from April to June 2016; an interviewer-based questionnaire was administered to 105 patients who seen to elicit information needed to achieve the set objectives. **Results:** The mean age of patients was 51.09 (±11.70) years; majority had no known family history and no health insurance. Most cervical cancer patients were unaware of their human papillomavirus status. About 72.81% of all patients presented late, surprisingly 87.6% of patients presented in an appropriate health-care facility as place of the first contact, but still presented in LUTH at late stages of their disease mostly due to misdiagnosis. Reasons for late presentation included fear, misconceptions, misdiagnosis, ignorance, and prolonged investigation time. **Conclusion:** As late-stage presentation was associated with both poor health-seeking behavior and health system delays; interventions should not only include increased awareness for the early detection and diagnosis but also measures to ensure improvements in health service delivery to ensure timely diagnosis and the management of breast and cervical cancers.

Keywords: Breast cancer, cervical cancer, late stage

Introduction

A few years ago, infectious diseases posed the most significant threat to disease control and healthcare in developing countries. With changing times however, noncommunicable diseases are taking the center-stage and illnesses such as cancer are becoming issues of major public health concern. The diagnosis and management of cancer have become a major challenge for physicians in developing countries. Some of the major reasons for this include lack of advanced technology for the medical treatment and late presentation of patients to the hospital.

Cervical and breast cancers are the two most common cancers among women in Nigeria, and other developing countries contributing significantly to a high morbidity and mortality rate in the country.[1] Breast cancer is the most common cancer in women worldwide, in Nigeria, with population of about 187 million people and it represents about 12% of all new cancer cases and 25% of all cancers in women.[2] Cervical cancer remains the second-most common cancer among females globally and in some parts of Nigeria, it is the most common cancer.[3]

Even though both of these cancers have a better prognosis if diagnosed and treated early, studies done in Nigeria suggest that a large number of women present at the late stage of their diseases.[4-7] Some of the reasons that have been provided for this

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include low literacy levels, high rates of poverty, cultural and religious traditions, poor geographical access to cancer care, low level of awareness of breast and cervical cancers, lack of screening, and poor diagnostic procedure and treatment among health-care provider.[8] The effects of late presentation include complicated diagnosis and treatment, poor prognosis, increased risks of side effects from the use of second- or third-line therapies, huge costs of treatment, loss of productivity, and increased mortality rates.[9,10] Understanding the peculiarities of Nigerian female cancer patients is important in determining reasons why they present late. In the blame game, the emphasis continues to rest on the patient for the delay in presentation for the management; however, it is important to itemize other factors that may be contributory to successfully eliminate them. In so doing, perhaps, we can successfully reduce the mortality rates associated with both of these cancers in Nigeria. This is why this study was aimed at identifying the patient and disease characteristics of women with breast and cervical cancers presenting at Lagos University Teaching Hospital (LUTH), a tertiary medical facility in Nigeria, with emphasis on the prevalence of late-stage presentation and reasons for the late-stage presentation. This center is one of the largest in the region receiving patients from all over the country, on an average, about 4000 new cancer cases are seen yearly.

Patients and Methods

This is a hospital-based, descriptive, cross-sectional study carried out at the outpatient clinic of the Department of Oncology and Radiotherapy of the LUTH. Participants were selected from the patients who attending the Oncology clinic regularly for the treatment and follow-up. A total of 105 patients were selected on the basis of the following eligibility criteria: (i) histological diagnosis of either breast or cervical cancer or both and (ii) willingness to give informed consent. Male patients with breast cancer and patients without next of kin who were unable to provide consent or information were excluded from the study. Consecutive sampling of patients who met the inclusion criteria was used until the study (April–June 2016) was over.

Data were collected solely by the researcher with the use of a predesigned and pretested questionnaire and were then analyzed using the Epi Info 7.1 (Lagos State, Lagos, Nigeria). The level of statistical significance was set at 5% ($P < 0.05$).

The American Joint Committee on Cancer staging system (version 7) provides a strategy for grouping patients with respect to the prognosis.[11] Stages 3 and 4 as at the time of the first presentation in LUTH were considered late-stage presentation, whereas Stages 1 and 2 were considered early-stage presentation.

The patient delay was defined as a time difference >3 months between the first notice of the first symptom by the patient and the first visit to any health-care provider.[12] Systemic delay was defined as the time difference >3 months between the first presentation and the onset of the treatment. [13]

Results

Patients seen were mostly in their sixth decade of life, with a mean age of 51.14 (±11.70) years for all patients. Breast cancer patients presented at a mean age of 51.09 (±11.76) years, with a range of 29–73 years, whereas cervical cancer patients presented at a mean age of 51.35 (±11.71) years, with a range from 40 to 71 years. All patients included in the study were female, majority of whom were married (81.9%). Only few of the patients had no formal education (6.7%) as shown in Table 1.

Majority of the patients live in urban areas (81.9%) and for about half of the patients, it takes >2 h to arrive at the hospital (50.5%). Most of the patients earned below N18, 000 ($59) a month with about 54.3% of the patients living on < N9000 ($29) a month, although only about 21.9% of all respondents were unemployed as shown in Table 1.

Of the 85 patients seen with histologically confirmed breast cancer, majority (57.7%) attained menarche between 13 and 15 years of age (40.0%) and 34.1% attaining menarche at <13 years of age. Majority of the patients were also menopausal (58.8%). Majority (60.0%) of the breast cancer patients have never used any form of contraceptive and have never consumed alcohol (68.2%) or smoked cigarettes (98.82%). More than three-quarters (78.8%) of breast cancer patients seen had the primary disease (first-time

Table 1: Sociodemographic and socioeconomic characteristics of all respondents

Variables ($n=105$)	Frequency (%)
Marital status	
Single	4 (3.8)
Married	86 (81.9)
Divorced/separated	3 (2.9)
Widowed	12 (11.4)
Place of residence	
Rural	19 (18.1)
Urban	86 (81.9)
Level of education	
None	7 (6.7)
Primary	26 (24.8)
Secondary	33 (31.4)
Postsecondary	39 (37.1)
Distance from hospital	
<30 min	3 (2.9)
30 min-1 h	23 (21.9)
1-2 h	26 (24.8)
>2 h	53 (50.5)
Estimated monthly income	
<N9000	57 (54.3)
N9001-N18,000	24 (22.9)
N18,001-N50,000	15 (14.3)
N50,001-N90,000	7 (6.7)
N90,001-N150,000	1 (1.0)
>N150,000	1 (1.0)

occurrence of this cancer). In addition, in a significant percentage of the patients (72.9%), there was no awareness of the disease before the onset of symptom. The patients who paid for the treatment out-of-pocket were 97.2% because they had no health insurance, as shown in Table 2.

Almost all the patients (94.3%) seen had no known family history of breast or cervical cancer. In addition, a majority of the cervical cancer patients were unaware of their human papillomavirus status (95.0%). Majority of the cervical cancer patients (80.0%) had their first sexual exposure before the age of 20 years; however, 70% stated to have only one lifetime sexual partner as shown in Table 3.

The most common first symptom was painless lump (81.8%) and postmenopausal vaginal bleeding (45.0%) for breast and cervical cancers, respectively. Breast cancer occurred slightly more in the right breast (49.4%) than the left breast (44.7%) as shown in Table 3.

Among the 105 patients who were included in the study, only 27.6% presented at the early stage of the disease, the remaining 72.8% of patients were in the late stage of the disease at the first presentation [Figure 1].

Table 2: Patient and disease characteristics of breast cancer patients

Variables ($n=85$)	Frequency (%)
Age of patients	
<40	15 (17.7)
40-80	70 (82.3)
>80	0 (0.0)
Age at menarche	
<13	29 (34.1)
13-15	34 (40.0)
16-18	10 (11.8)
>18	12 (14.1)
Alcohol consumption	
Never used	58 (68.2)
Still using	6 (7.1)
Used, but stopped	21 (24.7)
Tobacco use	
Never used	84 (98.8)
Used, but stopped	1 (1.2)
Still using	0 (0.0)
Family history of breast cancer	
No	80 (94.1)
Yes	5 (5.9)
Affected breast	
Both	5 (5.9)
Left	38 (44.7)
Right	42 (49.4)
Type of disease	
Primary disease	67 (78.8)
Recurrence	18 (21.2)
First symptom noticed	
Bloody discharge	1 (1.2)
Breast lump	72 (85.9)
Breast mass	3 (3.5)
Folding line on side of the breast	1 (1.2)
Pain	5 (5.9)
Retracted nipple	3 (3.5)
Treatment received	
Chemotherapy	37 (43.5)
Radiotherapy	12 (14.1)
Surgery	32 (37.7)
Target therapy	0 (0)
Yet to be treated	3 (3.5)
Awareness prior to symptoms	
Yes	23 (27.1)
No	62 (72.9)

Table 3: Patient and disease characteristics of cervical cancer patients

Variables ($n=85$)	Frequency (%)
Age	
>20-40	2 (10.0)
>40-60	12 (60.0)
>60-80	6 (30.0)
Age at the first sexual intercourse	
<15	0 (0.0)
15-20	16 (80.0)
21-25	3 (15.0)
26-30	1 (5.0)
Number of sexual partners in lifetime	
1	14 (70.0)
2	4 (20.0)
3	1 (5.0)
4	1 (5.0)
Family history of cervical cancer	
No	19 (95.0)
Yes	1 (5.0)
HIV status	
Positive	0 (0.0)
Negative	7 (35.0)
Do not know	13 (65.0)
HPV status	
Positive	1 (5.0)
Negative	0 (0.0)
Do not know	19 (95.0)
Previous STIs	
No	16 (80.0)
Yes	4 (20.0)
First symptom noticed	
Abnormal vaginal bleeding	9 (45.0)
Abnormal vaginal discharge	6 (30.0)
Contact vaginal bleeding	4 (20.0)
Lower abdominal pain	1 (5.0)
Mode of hospital payment	
Out of pocket	19 (95.0)
Health insurance	1 (5.0)
Awareness prior to symptoms	
Yes	0 (0)
No	20 (100.0)

HPV – Human papillomavirus; STI – Sexually transmitted infection

The majority (87.6%) of these patients presented in an appropriate healthcare facility (private or general hospital) within 3 months of noticing the first symptom, yet 72.8% were at late stages of the disease as at the time of arrival in LUTH. In 45.6% of these patients, late-stage presentation was due to a systemic delay [Figure 2].

Majority (88.9%) of patients who attended public hospitals (General and Teaching Hospitals) as the place of the first contact experienced a delay in investigation time, which eventually contributed to late-stage presentation. However, almost half (42.8%) of the patients who attended private hospitals as the first place of contact, misdiagnosis was recorded and this contributed in their late-stage presentation.

Several reasons were given as reasons for late-stage presentation, including reasons stemming from delay on the patient's part such as preference for alternative medicine, fear, myths/misconceptions, and ignorance; however, reasons involving a delay in the health-care system such as misdiagnosis at the lower levels of healthcare, prolonged investigation time, and unavailability of appropriate treatment modality were also elicited as cause for late-stage presentation. In this study, no patient stated cost or religious beliefs as a reason for late-stage presentation.

There was a statistically significant association between ignorance and lack of personal initiative and late-stage presentation (P = 0.0077). Misdiagnosis at lower levels of healthcare and delay in the health system were also significantly associated with late-stage presentation (P = 0.0001) [Table 4].

More patients with breast cancer (67%) than those with cervical cancer (33%) experienced a systemic delay (time period >3 months between the first presentation in a health care facility and first treatment for breast and cervical, and this was due to reasons, including misdiagnosis at lower levels of health care, unavailability of the radiotherapy machine, or delayed investigation time) [Figure 3].

There was a statistically significant association between both patient and systemic delay and late-stage presentation of breast and cervical cancer patients [Table 5].

Discussion

In this study, the patient and disease characteristics seen were consistent with those found in other studies from other developing countries worldwide.[14-16] For the majority of patients with breast cancer, the first symptom noticed was a painless lump. The painless nature of this first symptom could have contributed to the delay seen on the part of these patients, this is similar to what was seen in another study in which they noted that when first symptom is not debilitating it is ignored until the occurrence of new symptoms or worsening of symptoms, the discovery of a painful lump usually reduces the patient delay as confirmed in other studies.[17]

Only 5.9% of breast cancer patients and 5% of cervical cancer patients reported a family history of breast or cervical cancer or any other type of cancer. Majority of patients either did not have or did not know if they had a family history of cancer. Contrary to expectations, it was observed that a family history of breast or cervical cancer did not have effect on the higher likelihood of patient delay. A likely reason for this "no-effect" may be because of the wide disparity between those who have a family history of cancer and those who do not (who are also in the majority). Relevant family history is expected to trigger

Table 4: Association between reasons provided and late-stage presentation

Variables	Frequency (n=105)		χ^2	P
	Early	late		
Alternative therapy				
Yes	0	4	0.48	0.4884
No	29	72		
Myths/misconceptions				
Yes	0	5	0.82	0.3652
No	29	71		
Ignorance and lack of personal initiative				
Yes	1	19	5.07	0.0243
No	22	43		
Misdiagnosis at lower levels of health care				
Yes	1	23	7.11	0.0077
No	28	53		
Delayed investigation time				
Yes	0	31	14.88	0.0001
No	29	45		

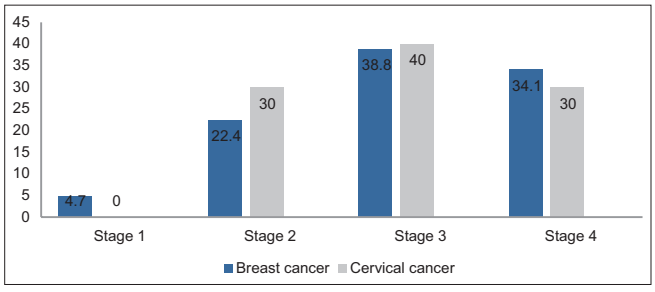

Figure 1: Stage at presentation

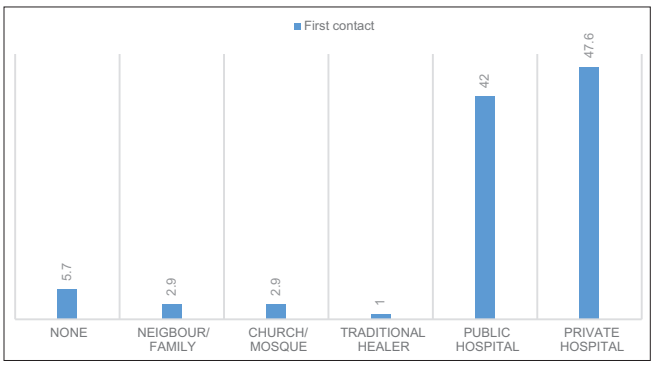

Figure 2: Place of first contact

Table 5: Association between delay and late-stage presentation in all patients

Variables	Frequency (n=105)		χ^2	P
	Early	Late		
Patient delay				
<1 week	6	10	8.5	0.0363
1-4 weeks	10	11		
1-3 months	6	16		
>3 months	7	39		
Systemic delay				
<1 week	0	0	8.1	0.0174
1-4 weeks	7	6		
1-3 months	9	15		
>3 months	13	55		

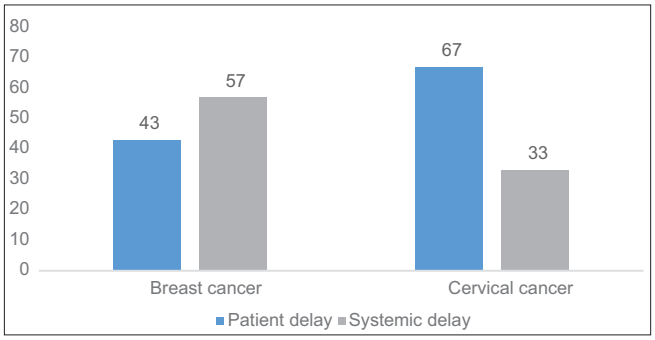

Figure 3: Patient versus system delay

more rapid evaluation and diagnosis of a self-detected breast complaint.[18] The finding about majority with no known family history could also be the result of recall bias in a population that may have more baseline anxiety based on lived experience and family history. Additional research is needed to explore the potential relationship between family history and diagnostic delays.

For the few patients seen with family history and late-stage presentation, the reason stated for late-stage presentation by most of them was a delay in health system as they presented in <1 week to healthcare facilities because of the fear of the death. Most of them reported that there was either misdiagnosis in the lower levels of healthcare or delays in running investigations and diagnosis.

The prevalence of late-stage presentation (72.9%) of breast cancer patients seen in this study is very similar to several studies previously carried in Nigeria and other developing countries. A study carried out in East Africa showed that 70.4% of the breast cancer patients seen presented at the late stage.[19] The patient and systemic delay were seen in this study as two of most important factors associated with late-stage presentation for both breast and cervical cancers. This finding disproves the popular notion that the reason for late-stage presentation and most often, poorer prognosis of breast and cervical cancer patients in Nigeria was simply caused by lack of personal initiative, ignorance, and poor health seeking behavior on the part of the patient. The findings of this research suggest otherwise and it could indicate that this problem can also be caused by the poor health-care system in Nigeria and delays on the part the health care providers themselves. A similar study[20] found that the phenomenon of delayed presentation occurs globally with a range 14%–73% (mean 33.1% ± 19.5% standard deviation) of patients presenting late (>3 months) to the doctors. Higher age groups, negative family history, low level of education, and low-socioeconomic status were also found to be the factors associated with delayed presentation in these studies. However, reasons such as cost and religious beliefs were not true at all for patients in this study; this is similar to another study carried out in Ghana, where only two of their respondents explicitly stated treatment cost as a reason for the late-stage presentation. Other reasons such as fear or mastectomy which have been reported by other studies in Africa and in Nigeria were not seen in this study.[21]

Reasons given for systemic delay were either misdiagnosis at the lower levels of healthcare or prolonged time spent for the laboratory investigations and diagnosis. For some of these patients, the waiting time period was as long as 2 years. For some patients interviewed with systemic delay, they stated that after visit to the first health-care provider, referral was given for further care, but they chose not go which ultimately shifts back the delay to the patient. The question of whether this was true for all patients with systemic delay seen in this study is one that is open to further research as qualitative methods may be required.

Conclusion

Reasons for late presentation with breast and cervical cancers in this study were not only attributed to poor health-seeking behavior and patient delay but also a significant delay within the health system. This translates to the need for focused interventions within the health system to ensure timely diagnosis and management of breast and cervical cancers to reduce the associated mortality and morbidity. To reduce the burden of these two most common female cancers in Nigeria, efforts must not only be targeted at education and increasing awareness to prompt the early detection and timely intervention but also improvement of health-care delivery, including better communication between the different levels of healthcare.

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Conflicts of interest

There are no conflicts of interest.

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