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Delayed treatment of symptomatic breast cancer: The experience from Kaduna, Nigeria

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Summary

Background. A cross-sectional study carried out at a teaching hospital in Kaduna, Nigeria, to investigate the extent and reasons for the delay between onset of symptoms and admission for treatment of symptomatic breast cancer.

Methods. The patients had histologically proven breast cancer and had been admitted for treatment. Data were obtained from interviews and patients' clinical and referral records.

Results. One hundred and eleven consecutive breast cancer patients were interviewed from July 2003 to June 2005. Only 12 (10.8%) could be admitted for treatment within a month of onset of symptoms. Delays were significantly associated with younger patients, elementary or no Western education, and domicile outside the Kaduna metropolitan area. Patients who were referred from, or received initial treatment at, peripheral hospitals had longer delays than those who came for first consultation at the teaching hospital. The proportion of early breast cancer cases (stages I and II) decreased from 45.9% at diagnosis to 25.2% at treatment, as concerns about mastectomy and hospital treatment led a significant number of the patients to temporarily abandon hospital treatment for alternatives, only to return with advanced cancers. The predominant reasons among the 99 patients who had delays of more than a month before admission were: ignorance of the seriousness of a painless breast lump (47.5%), non-acceptance of hospital treatment (46.5%), and preference for traditional treatment (38.4%). A significant number of patients referred from peripheral hospitals had inappropriate surgeries and biopsy management which contributed to the advanced stage on admission.

Conclusion. This study shows that delayed treatment of symptomatic breast cancer at this centre in Nigeria is as much related to the quality of medical care as it is to local beliefs, ignorance of the disease, and lack of acceptance of orthodox treatment.

Breast cancer has recently overtaken carcinoma of the cervix as the leading cause of cancer morbidity and mortality in Nigerian women.[1] The incidence may be much lower than in developed countries, but mortality from the disease continues to be a source of concern. The average lifespan of a diagnosed breast cancer patient in Nigeria has been estimated to range between 9.5 and 30 months. Orthodox medical treatment is commenced in most of these patients at an advanced stage of the disease[2-5] because of a higher proportion of aggressive breast cancer variants, lack of organised screening and breast cancer control programmes, and delays in diagnosis and treatment.[2-6]

Studies from developed countries have shown that delay between onset of symptoms and treatment of breast cancer results in disease progression and a detrimental effect on survival.[7-9] By convention, breast cancer delay has been categorised into patient delay (between onset of symptoms and first consultation with the physician) and health provider or medical delay (from first consultation to initiation of treatment). Provider delay may be diagnostic (from first consultation to confirmation of pathological diagnosis) or treatment delay (from confirmation of diagnosis to initiation of treatment).

Reports from Nigeria on breast cancer delay have tended to place more emphasis on the role of the patient in the delay, citing ignorance and misconceptions about the disease, objections to mastectomy, and faith in alternative medicine, as the common reasons for delay.[10-13] In contrast, breast cancer patients from developed nations present earlier, and a significant proportion are detected by screening mammography. Provider delay has therefore received more attention even though the prognostic implications are not quite clear.[14-20] Of interest is the study by Afzelius *et al*. who showed, paradoxically, worse prognosis with shorter provider delay because clinicians tend to approach the more aggressive tumours with more priority.[8] This study was conducted to investigate the factors associated with delayed treatment of symptomatic breast cancer in Kaduna, a major political and economic state capital in northern Nigeria. The study setting was Ahmadu Bello University Teaching Hospital, a major oncology centre in Nigeria.

Materials and methods

This study was of consecutive patients admitted to Ahmadu Bello University Teaching Hospital, Kaduna, from 1 July 2003 to 30 June 2005, who had histologically proven breast cancer. The policy of the unit where the study was conducted was to perform biopsies on all breast lumps during the first visit to the breast clinic, obtain results and counsel the patients within two weeks, and admit them for definitive therapy. Data were collected from the patients after admission for initial definitive therapy. Initial definitive therapy in this study strictly refers to mastectomy, neoadjuvant chemotherapy or systemic therapy.

Information obtained from the patients' clinical records included the histopathological type of breast cancer, the stage at diagnosis and at commencement of treatment, and date of admission. The Manchester staging system was used. Patients were interviewed by a surgical resident using a structured open-ended questionnaire in English, or translated to the patient. The interview commenced with limited demographic data including the patient's age, sex, religion, marital status, number of children, educational status and place of residence. Patients were asked about their initial breast symptoms, the time interval between onset of symptoms and admission, and initial steps taken by them to remedy these symptoms. Those who went to peripheral hospitals were asked about treatments and procedures carried out, biopsy results and whether or not they were counselled about breast cancer and the timing of referral. The patients were divided into two groups based on whether or not they were admitted for treatment within a month of symptoms. Delay was pegged to 1 month in this study, based on the unit's decision to ensure that biopsy processing and preparation for surgery were completed within 2 weeks. Patients who were admitted beyond 1 month of symptoms were asked why they had delayed. Information was sought about prevailing local beliefs and treatments received outside hospitals. The health care system was assumed to have contributed to the delay if, at the patient's initial consultation at the peripheral or teaching hospital, the attending physician missed the breast lump, failed to counsel the patient about the possibility of the lump being malignant, or did not refer the patient, or carried out inappropriate procedures. At the teaching hospital, other potential sources of delay that we considered included initial biopsy diagnosis of benign disease, delays in communicating the biopsy results to patients, and other logistical problems in the hospital that might have interfered with admission of patients for surgery.

Data analysis was mainly by descriptive statistics. Comparison of clinical and demographic characteristics of patients who were admitted for treatment in the first month of symptoms with those admitted after a month were subjected to chi-squared or Fisher's exact tests where appropriate, while their median ages and duration of symptoms were compared by Mann-Whitney or Kruskall-Wallis tests, where applicable. Statistical significance value was set at $p=0.05$.

Results

One hundred and eleven patients were interviewed. Only 12 patients (10.8%) were admitted for treatment within 1 month of symptoms; the corresponding figure at 3 months was 21 (18.9%). The demographic characteristics of the patients are presented in Table I.

Duration of symptoms at admission for initial definitive therapy ranged from 2 weeks to 4 years, with an overall median of 9 months. Duration of symptoms was positively associated with tumour stage ($p<0.05$), with patients in stages I, II, III and IV linked to a median duration of symptoms of 1, 4, 8 and 12 months, respectively.

The distribution of patients by cancer stage at initial definitive treatment is reflected in Table II, showing 83 (74.7%) patients treated for advanced disease. Of these patients, 24 were initially staged in the breast clinic in stages I and II

TABLE I. PATIENT CHARACTERISTICS IN RELATION TO PRESENTATION DATE

	Admitted for treatment		
	Within a month	After a month	
No. of patients (%)	12 (10.8%)	99 (89.2%)	*p-value*
Median age (years)	**50**	**43**	**<0.05**
Marital status			
Currently married	**11**	**86**	
Currently unmarried	**1**	**13**	
Percentage currently married	**91.7%**	**86.9%**	**>0.05**
Western education			
Illiterate/primary	**2**	**57**	
Secondary/tertiary	**10**	**42**	
Percentage secondary/tertiary	**83.3%**	**42.4%**	**<0.05**
Location of residence			
Kaduna	**12**	**61**	
Outside Kaduna	**0**	**38**	
Percentage resident in Kaduna	**100%**	**62%**	**<0.05**
Stage at treatment			
Stages I/II	**11**	**17**	
Stage III/IV	**1**	**82**	
Percentage stages I/II	**91.7%**	**17.2%**	**<0.05**

but came for admission after prolonged delays; 18 of these refused consent for mastectomy and absconded from the hospital; 4 claimed they were not aware that their biopsy results confirmed breast cancer; and 2 had admission deferred owing to industrial action by some hospital staff.

The reasons for delay in the 99 patients admitted for treatment beyond a month of symptoms are summarised in Table III. The most frequent reason (47.5%) cited was lack of awareness of the seriousness of a lump in the breast. A traditional belief that hospital treatment leads to escalation of breast cancer was initially responsible for families refusing consent for hospital admission, while those who rejected mastectomy feared for the fate of relationships with their spouses and partners or did not want their bodies to be disfigured by surgery.

None of the 40 patients referred from peripheral hospitals was admitted for definitive treatment within a month of symptoms. Their median delay (12 months) was nearly double that of the 55 patients who came directly to the teaching hospital (7 months, $p<0.05$). Table IV shows the frequency of provider-related delay events for patients who were admitted beyond a month of symptoms.

TABLE II. DISTRIBUTION OF PATIENTS BY STAGE AT DEFINITIVE TREATMENT

Stage	No. of patients	%
I	**10**	**9**
II	**18**	**16.2**
III	**37**	**33.3**
IV	**46**	**41.4**
Total	**111**	**99.9**

Discussion

This study has shown that only a small fraction of breast cancer patients (10.8%) in this part of Nigeria present for treatment within a month of onset of symptoms, even though the proportion is higher than the 3 - 7% reported in other parts of Nigeria.[5,21] An overall median delay of 9 months, with 18.9% of patients admitted for treatment within 3 months of symptoms, is in total contrast to the situation in developed nations. For instance, Arndt *et al*. reported median patient and provider delays of 16 and 15 days respectively in studies from Germany, with 18% presenting to the physician beyond 3 months,[14,22] while Burgess *et al*. found only 19% of patients delayed more than 3 months.[17]

TABLE III. PATIENTS' REASONS FOR DELAY (*N*=99)

Reasons for delay	No. of patients	%
Patient not aware of seriousness of a lump in the breast	**47**	**47.5**
Went for alternative (traditional/spiritual) treatment	**38**	**38.4**
Family refused hospital treatment	**25**	**25.3**
Did not want mastectomy as treatment	**21**	**21.2**
Could not initially afford hospital treatment	**13**	**13.1**

Note: Many patients gave several reasons.

TABLE IV. EVENTS ASSOCIATED WITH PROVIDER DELAY IN 99 PATIENTS

Event	No. of patients	%
Failure to refer patient at first consultation	**40**	**40.4**
Attempted treatment by lumpectomy with recurrence	**15**	**15.1**
Lump not sent for histopathological examination	**14**	**14.1**
Patient not counselled about seriousness of breast lump	**13**	**13.1**
Breast lump mistakenly incised as an abscess	**10**	**10.1**
Breast lump not felt at initial examination	**7**	**7**
Biopsy result not immediately communicated to patient	**4**	**4**
Initial biopsy diagnosis of benign disease	**3**	**3**

Note: Some patients had several delay events.

Demographic characteristics such as age, educational background, and place of residence relative to location of treatment centre may have small but significant influences on delays in the presentation of our patients for breast cancer treatment, consistent with reports from other parts of the world.[23-27] The majority of our adult female population are rural-based, with little or no Western education, and are disadvantaged concerning breast cancer information and proper treatment facilities. In support of this fact, 47% of those who presented late for treatment were not aware of the seriousness of a lump in the breast.

The fact that 74.7% of patients presented for treatment in stages III and IV is consistent with other reports from Nigeria, with the proportion of advanced cases ranging from 56% to 88%.[3-5,10,21,28] While this trend is similar to South African blacks, with patients in stages III and IV averaging 77%,[29] it is in total contrast to white Americans, who average 8.9% and African Americans at 13.8%, accordingly.[23,24]

Inadequate knowledge, and misconceptions about breast cancer and its treatment, even among educated Nigerians and those working within teaching hospitals, has been highlighted by Uche from Port Harcourt,[12] and Odusanya and Tayo from Lagos.[13,30] Delayed presentation caused by preferences for traditional or spiritual healing and fear of mastectomy has also been documented in other centres.[10,11,23,31] Perhaps unique to our patients is the notably high proportion of patients who believe that medical treatment of cancer leads to escalation of the disease and that hospital should not be the place for treatment. Closely linked to this belief is that consent for mastectomy must be approved by family members, regardless of the patient's needs or wishes.

Resorting to alternative medicine by patients with breast cancer is a well-documented practice. In the USA, for instance, over 28% of patients with early breast cancer are known to utilise various forms of alternative medicine while on standard medical treatment.[32] In contrast, a significant proportion of our patients go straight to traditional healers, pastors and spiritualists as a first line of treatment, as soon as a diagnosis of breast cancer is made, or on the basis of suspicion of orthodox treatment. They come back to seek standard medical treatment as a last resort, often because of pain, bleeding and offensive discharge from fungating cancers.

The reasons for resorting to alternative medicine are numerous, as can be adduced from this study. For some it offers a convenient escape from 'dreaded' mastectomy, or is an extension of denial. Affirmations such as 'I am healed in Jesus' name' or 'Breast cancer is not my option' are common with patients of Christian faith. The belief that cancer has a supernatural basis is still prevalent among our indigenous people and, to them, a cure can therefore not be found in a hospital. Other reasons may be because alternative medicine is readily accessible and affordable by the community and lauded by opinion shapers. The well-known failures and limitations of orthodox treatment of cancer also lend some credence to traditional beliefs about cancer. It should be noted that cultural beliefs which have negative effects on breast cancer presentation and mortality have also been reported among blacks in South Africa and America.[23,24,28,33]

The concept of attributing delay between initial consultation and treatment to the health care provider may not apply completely in our situation. The period of provider delay in our setting is strongly influenced by difficulties in getting consent for treatment, outright absconding from hospital after biopsy results are announced, and difficulties in financing diagnosis and treatment – as evidenced by the 18 patients who absconded from the hospital and 13% of patients who delayed because they could not initially afford the hospital fees. Burgess *et al.*[21] from England reported that 83% of their patients were referred during their first general practitioner visit, but this was not the case with our patients. Provider delays of 6 - 16%, mainly due to failure to take biopsies of lumps considered benign on mammography or false-negative biopsies, have been documented in developed countries.[15,16,19] In our patients, delays linked to the provider are most commonly associated with general practitioners who fail to refer patients promptly and proceed with unsuitable and unethical treatments such as attempting to treat a malignant breast lump by excision without sending specimens for histopathological analysis, or incising the lump as for an abscess. Such unfortunate practices take place because malpractice litigations are uncommon in this part of Nigeria, in addition to poor supervision of medical practices, little emphasis on ethics at our primary and secondary levels of health care, and lack of a well-defined community-based policy on breast cancer referral. Some private clinics capitalise on these omissions to retain patients for whom they neither have the trained personnel nor the facilities to manage, because operations bring them more profit.

In summary, late presentation for breast cancer treatment among the patients studied may be the result of a number of factors. Most of the patient population have a poor understanding of the disease and the basis of treatment. Culturally based beliefs encourage patients to seek alternatives to orthodox treatment, and many patients who seek medical treatment may simply be mismanaged at local hospitals and clinics before referral to teaching hospitals.

Data collection in this study was terminated because the teaching hospital was relocated to a permanent site in Shika-Zaria, a more rural setting 70 km away, thereby limiting the sample size. We still feel that enough lessons can be learnt from our findings to suggest a larger population-based study on delays in treatment of breast cancer, which remains an important challenge to breast cancer care in this part of Nigeria. The approach to minimising delay will require community-based campaign programmes aimed at educating the population on breast cancer and its treatment, promoting breast self-examination, enforcing referral of patients with breast symptoms to centres with facilities for diagnosis and treatment, and ensuring that these centres have laid-down policies and protocols to minimise delay.

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