DELAYS IN PRESENTATION AND TREATMENT OF BREAST CANCER IN ENUGU, NIGERIA

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ABSTRACT
Objective: To assess the delays and define the causes of delay in presentation and treatment of breast cancer patients in Enugu, Nigeria.

Design: A cross-sectional survey of breast cancer patients using a semi structured questionnaire.

Setting: Surgical Oncology unit, University of Nigeria Teaching Hospital Enugu, (UNTH-E), Nigeria.

Subjects: 164 consecutively presenting breast cancer patients seen between June 1999 and May 2005.

Results: Most of the patients (82.3%) reported for initial evaluation at a modern health facility while 17.5% reported first to Alternative practitioners. Forty six patients (26.4%) presented within a month of noticing the symptoms while 72 (45.3%) delayed more than 3 months. In contrast, 18 (17%) were seen at the site of definitive treatment within one month of seeking help at the initial hospital while 73.4% had a delay of more than 3 months after the initial hospital contact. Institutional or physician induced delays were present in 46.2% of the cases while patient related delays were present in 79.2% of cases. Only use of alternative practitioners for initial treatment was significantly related to delays of more than three months before presentation (p= 0.017).

Conclusion: For breast cancer prevention programs in Nigeria to succeed, they must in addition to breast awareness and screening programs, address the institutional bottlenecks, the dearth of knowledge among primary care physicians and improve referrals from alternative practitioners and prayer houses.

Key Words: Breast cancer, delayed presentation, treatment, Nigeria.   *(Accepted 20 August 2009)*

INTRODUCTION
In most developing countries of Africa, 70-79% of breast cancer patients still present with advanced disease.[1] This makes survival very few and compromises the quality of life and treatment offered to these patients. The late presentation is often ascribed to lack of screening programs, poor breast awareness and other social factors that mitigate against early presentation by patients.[1-3] Since mass screening with mammography is impracticable in resource limited environments, breast cancer prevention and control programs rely on interventions to increase breast awareness through mass education, breast self examinations and clinical breast examination. While such programs work to improve patient's response to the presence of breast symptoms, their success also depend on the response of health care personnel and institutions to patients presenting with breast problems and the contribution of each of these to the delay in diagnosis and treatment.

Nigeria has one of the highest burdens of breast cancer in Africa[1] but there is no study that has specifically examined the extent of delays or the causes of delay in presentation and treatment of

breast cancer so as to guide policy and intervention programs aimed at earlier diagnosis and treatment. This study was designed to assess delays and define the causes of delays in getting medical treatment by breast cancer patients at University of Nigeria Teaching Hospital Enugu, (UNTH-E), Nigeria.

METHODS
This was a cross-sectional study involving the direct administration of a semi structured questionnaire to consecutively presenting breast cancer patients at the Surgical Oncology unit of the UNTH-E, Nigeria from June 1999 to May 2005.
Patient recruitment
All cancer patients managed in the surgical oncology unit of UNTH-E, Nigeria from June 1999 to May 2005 were recruited into the study as long as they consented to give the required information. Patient recruitment was interrupted from June 2001 to April 2003 during the absence of the investigator. Patients whose condition precluded the ability to give informed consent were excluded from the study. Patients were recruited and interviewed consecutively as they presented at the clinics and wards. Information about the research was given verbally to each patient; those that gave consent were then interviewed. Each patient was assured that the information sought was not part of the treatment and

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would in no way influence the treatment of their cancer. Patients were free to decline answering any of the question items. The questionnaires were administered by the investigator or one of his house staff.

The questionnaire was designed after an extensive literature search on delays in cancer management. It was validated with a small group of breast cancer patients to ensure clarity and consistency. The questionnaire included demographic data, such as age, sex, marital status, socioeconomic status, profession, religious affiliation, area of domicile, nearest access point for medical treatment and highest level of education attained. Information on the stage of the disease were obtained or cross checked from the case notes. Other information obtained were symptoms present, how the disease was noticed, patient's reason for searching for treatment, the first point patient went for treatment, the outcome of the initial treatment, the first point for conventional medical treatment, the lag time between the onset of symptoms and the first point of presentation for modern medical treatment, the reasons for the delay in presenting to the first point of treatment. The patients were also asked about their reasons for delay in going to the 1st hospital for treatment, the duration between presentation at the first point of treatment and presentation to us, the reasons for the delay in coming to us for treatment. We also assessed the awareness of the patient for methods of early detection of breast cancer and which screening methods patient has used. An inquiry was made of past history of breast diseases or cancer in the patients, among the patient's family or friends, how it was treated and the outcome of that treatment as well as patient's beliefs about the cause of the current problem.

Statistical analysis

The patients were classified into those with significant delays (more than 3 months delay) and those without significant delays (less than 3 months delay). The two groups were compared with respect to demographic characteristic and other factors that influence the outcome of breast cancer treatment. The data were analyzed using SPSS® statistical software version 9.0. Chi square and student's t-distribution were used for comparison between the two groups, with the level of significance at p = 0.05.

RESULTS

A total of 164 breast cancer patients participated in the study. There were 162 females and 2 males, the ages range from 21years to 77 years with a mean age of 45.7yrs and median age of 45years. Other demographic characteristics are shown in table 1.

A hundred and four patients (96.3%) had access to a hospital within their town of residence while 4 patients (3.7%) can access a hospital only by going outside their town of residence. The majority of the patients, 93 (82.3%) sought initial evaluation at a modern health facility, 15 patients (13.1%) used traditional healers and alternative practitioners while 5 patients (4.4%) sought prayer house treatment. The first point of contact with modern medical treatment is the general practitioner in over 50% of cases (81). More than a quarter of the patients (41) initially consulted a surgeon, 16 patients (10.1%) used a patent medicine dealer, 12 patients (7.5%) consulted an Obstetrician Gynaecologist while 8 patients (5.0%) contacted a nurse or other allied health care personnel. Ninety four percent of the patients (147) have passed through one or more physicians before presenting to us for definitive care while 13% of them have seen 3 or more physicians. Nine patients (5.5%) have been commenced on a form of definitive treatment elsewhere before presentation in our center.

The lag time from the point patient first noticed the symptom to presentation for initial evaluation is shown in table 2. More than 26% of the patients presented within a month of noticing the symptoms, 54.7% presented within 3 months, while 45.3% delayed for more than 3 months. In contrast, 71.9% (110) presented to us for definitive treatment after delays of over 6 months (Table2). When we examined the interval between the first hospital of contact and commencement of definitive treatment of the breast cancer (whether in our center or elsewhere), 17% started getting treatment within one month of reporting at the first hospital, 27.6% were commenced on treatment within 3 months while 72.4% had a delay of more than 3 months after the initial hospital contact and 56.4% had delays of more than 6 months. Most of the patients (78.3%) presented with stages III and IV disease (Table 3). Forty one patients (39%) noticed the breast problem while bathing or dressing, 36 (34.3%) noticed it while doing breast self examination. The onset of pain called attention to the problem in 25 (23.8%) of the respondents. The respondent's spouse or partner detected the problem in only one percent of cases. Table 4 shows the reasons the patients gave for delays in presenting for evaluation at the first health facility. The majority, 27.8% did not consider the symptoms serious or thought it will disappear, 23.3% did not know the implication of the abnormality, 13.9% lacked finance to go for treatment, 12.6% were delayed by treatment at alternative practitioners and prayer houses while 12% did not experience pain and therefore did not present earlier. The main reasons that induced our patients to present for treatment were pain (30.3%), development of features of locally advanced disease like ulceration, skin nodules, nipple discharge (22.6%), on the advice of

friends and relations (16.3%), patients became generally worried about the anomaly (12.7%) and following advice of doctors or other health care workers (11%).

Age, socioeconomic status, minimum level of education attained, marital status, religious affiliation, urban or rural domicile and ease of access to hospitals did not influence time of initial presentation of the patients. The two male patients in the study population were among those that delayed more than 3 months. Patients who used alternative practitioners and prayer houses as their initial point of treatment were significantly more among those that delayed more than 3 months (21 out of 27 Vs. 36 out of 91, P= 0.017). Patients who claimed they have used one or more breast cancer screening methods were slightly more among those that presented before three months compared to patients who have never used any screening method (P = 0.77). Prior history of breast disease, history of breast cancer among families and friends, how the cancer or breast disease were treated and outcomes of such treatments as well as patient's beliefs about the cause of the breast cancer did not influence the time of presentation. Stages III and IV disease occurred more in patients that had more than 3 months delay before definitive treatment (p< 0.001), (Table 6).

Both patients related and provider induced delays coexisted in many of the patients that had significant total delays (Table 5). There were institutional or physician related delays in 46.2% of the cases.

Table 1: **Demographic Characteristics.**

Parameter		No.	Freq (%)
Socioeconomic status	Low	94	58.8
	Middle	64	40
	High	2	1.2
Marital status	Married	116	71.2
	Not married	19	11.7
	Widowed	24	14.7
	Divorce/ separated	4	2.5
Highest Level of education	Non	24	15.2
	Primary	38	24.2
	Secondary	45	28.7
	Tertiary	47	29.9
	Higher Degree	3	1.8
Religious affiliation	Catholics	81	49.7
	Orthodox protestants	39	23.9
	Pentecostals	31	19
	Unspecified Christians	7	4.3
	Muslims	3	1.8
	Traditional religion	2	1.2

Table 2: **Lag Time from Symptom Onset to Presentation for Initial Evaluation and for Definitive Treatment.**

Lag time from symptom onset	To presentation for initial evaluation		To presentation for definitive treatment	
	Number of patients	%	Number of patients	%
Less than 1 month	42	26.4	9	5.6
One - 3 months	45	28.3	7	4.3
More than 3 month - 6 months	28	17.6	28	17.3
More than 6 months	44	27.7	118	72.8
Total	**159**	**100**	**162**	**100**

Table 3: **Stage of Disease at Presentation in Our Hospital.**

Stage	Number	Frequency
I	12	7.9
II	21	13.8
III	62	40.8
IV	57	37.5
Total	**152**	**100**

Table 4: **Reasons for Delay in Going to the First Health Facility for Treatment.**

Reason for delay b/w symptom onset and 1st modern treatment	Freq.	Percent
Did not consider it serious/hope it will disappear	44	27.8
Ignorance of what it is	37	23.3
Finance	22	13.9
Using Alternative treatment or prayer houses	20	12.6
Painless	19	12
Fear of surgery/breast removal	9	5.6
Was preoccupied by family/domestic/social problems	9	5.6
Thought it is pregnancy/effect of lactation	5	3.2
Discouraged by friends and relations	5	3.2
Self medication	4	2.5
No reason	2	1.2
Searching for appropriate hospital/doctor	2	1.3
Industrial action by Teach hosp/lab test delay	2	1.3
Seeking different opinion	1	0.6
No ulcer	1	0.6
Fear she will die	1	0.6
Fear because her elder sister had breast ca	1	0.6
A local nurse was treating her with antibiotic	1	0.6

Table 5: **Factors That Play a Role in Causing Significant Total Delay from Symptom Onset to Definitive Treatment Point.**

Patient related factors	Freq.	%
Ignorance of what it is	33	25.3
Finance	22	16.9
Thought it was harmless/will disappear	20	15.4
Fear of/refused surgery/mastectomy	12	9.2
Painless/not disturbing her	9	6.9
Delayed by family and social problems	9	6.9
Alternative and prayer house treatment	7	5.4
Discouraged by friends and relations	7	5.4
Fear of cancer	3	2.3
Ignored medical advice/histology/biopsy	3	2.3
Trying to go abroad for treatment	2	1.5
On self medication,	2	1.5
Seeking different opinion	1	0.8
No confidence in the nearby teaching hospital	1	0.8
Afraid of numerous protocols	1	0.8
Breastfeeding	1	0.8
Did not know it can be treated well	1	0.8
Distance	1	0.8
Thought it is spiritual	1	0.8
Did not know of UNTH as breast cancer center	1	0.8
Provider induced		
Delay from treatment at the initial hospital, delayed referrals or non referrals	23	17.8
Wrong advice, false reassurance by Doctor/health personnel	15	11.5
Delay in histology report	8	6.2
No histology done after biopsy	7	5.4
Strike action at UNTH	6	4.6
On treatment by patent medicine dealer	4	3.1
On treatment by a nurse	1	0.8
Repeated postponing in hospital	1	0.8

		Disease stage			Total
		I	II	III	IV	
Total period of delay	One month or less	3	3	0	1	7
	More than 1 month But less than 3 months	4	3	7	0	14
	3 months to 6 months	2	3	5	10	20
	More than 6 months	3	11	46	41	101
	Total	**12**	**20**	**58**	**52**	**142**

These ranged from delayed referrals or non referrals during treatment at the initial hospitals (17.8%), wrong advice and false reassurances from the initial doctor or health professional (11.5%), delays in getting biopsy or histology reports (6.2%), physician's failure to get biopsy or histology at the initial evaluation (5.4%), and industrial actions in the hospitals (4.6%).Delays from patient related factors occurred in 79.2% of cases.

The main reasons here were patient claiming ignorance of the dangers of the symptoms (25.3%) or hoping that they will soon resolve (15.4%), lack of funds to go for treatment (16.9%), patient's refusal or fear of surgery and mastectomy (9.2%), delays from family and social problems (6.9%), patients believing that the symptom was not serious because it was not painful and does not disturb her (6.9%) and patients receiving treatment at alternative medical practitioners and prayers houses (5.4%).

DISCUSSION

Most breast cancers in developing countries are diagnosed at advanced stages resulting in limited treatment options and poorer outcomes. The late stage at diagnosis has often been assumed to be from late presentation by the patients.[1-3] This study shows an exceptionally high prevalence of patient related delays in presentation and equally long periods of provider induced delays in referral and treatment. In Britain, the time between the first symptom and start of treatment is more than 3 months in about a third of breast cancer patients, and more than 6 months in a quarter.[4] In our own patients, the time between symptom onset and treatment is more than three months in over 85% of the patients and more than 6 months in nearly 72% of the patients. Only 26.4% of our patients sought their initial evaluation within one month of onset of symptoms as opposed to more than 50% in Britian.,[4] 47% in Pakistan [5] and 63%[6] in India. In developed countries, 20-30% of breast cancer patients will delay for 3 months or more before presentation; a duration that has been shown to be significant because of the effect on survival.[4] In contrast, 45.3% of our patients delayed for 3 months or more before presentation at their first point of evaluation.

Nearly 73% of our patients had delays of over three months from their first contact with health institutions to the point of their definitive treatment. In Britain only 6-16% of breast cancer patients experience delays of more than 3 months between the consultation of their family physician and referral to hospital for definitive treatment.[5] Such delays as this are normally regarded as provider delays. While some evidence exist that long provider delays do not adversely influence survival if they are kept to within 90 days, [7] such cannot be said of our environment where over 50% of the patients experience provider delays of 6 months or more. Provider related delays noted among our patients were principally of two types (Table 5).

Most delays are from apparent deficits in professional knowledge and practice in the management of breast symptoms; including lack of referrals or delayed referrals, false reassurances by health personnel and failure to obtain histology after biopsy. A less prominent but significant cause of delay are from infrastructural and or organizational lapses in health institutions causing delays in diagnosis and treatment. Identified among such factors are industrial actions by workers, absence of water or light in hospitals hindering delivery of services and non availability of needed facilities for treatment or investigations. Improved professional education, health institution reforms as well as legislative and legal actions are measures that can be used to shorten these provider related delays.

This study also shows that the causes of delay between initial consultation and the definitive treatment are more than provider related. Many of the patients ignored or failed to follow up with their referral and treatment for several reasons, including failure to appreciate the potential danger of the breast symptoms even after encounters with health professionals, fear of surgery/mastectomy, lack of funds and continued treatment with alternative practitioners.

In a systematic analysis of studies of the influence of delay on survival, Richards et al showed that patients who delayed 3 months had a 12% lower 5-year survival compared to those with shorter delays.[4] Our study showed that advanced stages of breast cancer (stages III and IV) occurred significantly more among patients whose total period of delay were longer than three months. Similar findings have been documented by other authors.[5, 8] It is thought that the effect of delayed presentation on survival is mediated through its influence on stage at diagnosis[4] This suggests that if adequate measures are taken to shorten the total delay between onset of symptoms and treatment of symptomatic breast disease, survival from the disease can be improved.

Complex arrays of personal, social, and cultural factors appear to influence a woman's decision to delay before presentation.[9] Among our patients, the main reasons for delay before initial presentation were   patients low level of appreciation of implications of beast symptoms, inability to afford hospital care, patients use of alternative medicine and prayer house treatments, fear of mastectomy, patient's preoccupation with family, social and domestic problems, patients being discouraged by friends and relations.

Among all the factors that we explored, only the initial use of alternative practitioners and prayer house treatment significantly increased the length of delay before initial presentation. This is not surprising considering that most cancer patients in Nigeria use Complementary and Alternative Medicine (CAM) with a curative intent.[10]

Patients who commence their treatment with CAM practitioners will only change to conventional medicine when CAM fails them. Malik and Gopalan reported a similar finding in Pakistan where use of CAM was significantly associated with delay in seeking medical advice and presentation at an advanced stage of disease.[5]

This study is based on patient's recall and patients have been known to underreport delays to avoid physician's criticism.[4] Underreporting however will only reduce the proportion of those with significant delays so that our findings may actually be an understatement of the problem.

CONCLUSION

Breast cancer patients in Enugu, Nigeria have very long delays from symptom onset to first consultation and initiation of treatment. A greater proportion of these delays are from patient related factors but serious physician and institution related delays are equally evident. Stage III and IV diseases were significantly more among patients that had delays of more than 3 months from symptom onset to treatment and initial use of alternative practitioners is significantly linked to delays longer than 3 months before presentation at the first health facility. These findings suggest that breast cancer control efforts in such areas as Enugu in Nigeria should not focus only on measures that will shorten patient related delays but equally need to address physician and health institution induced delays as well as take measures to get alternative practitioners and prayer houses to refer patients to hospitals.

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