Original Article

A Prospective Study of Recognizing the Reasons for Women's Delayed Treatment of Breast Cancer Symptoms

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ABSTRACT

Introduction: *Breast cancer (BC) is the most common cancer and a major global health problem, leading cause of death among women. Globally, breast cancer (BC) is the most common cancer in women and is increasing in developing countries.* ***Objective:*** *To identify reasons for delayed treatment of breast cancer symptoms in women.* ***Methods & Materials:*** *A prospective observational study was conducted from January to June 2022 in the Department of Surgery, Enam Medical College and Hospital, Savar, Bangladesh. The sample size was estimated to be 100. All women aged 18–70 years who were diagnosed with BC and received treatment for at least 6 months participated in the study using a non-probability consecutive sampling method. Women with psychiatric disorders who did not provide consent were excluded from the study.* ***Results:*** *A total of 100 patients were included in the study. The age of the patients was 45.38±11.58 years. The mean BMI was reported as 26.28±5.49 kg/m^2. The majority of the patients were living in urban areas (n=70, 70.0%) whereas 30 patients (30.0%) were living in rural areas. Most of them were illiterate (n=52, 52.0%), belonged from low class (n=75, 75.0%), housewives (n=84, 84.0%) and married (n=64, 64.0%). Appointment delay was significantly associated with a treatment-seeking delay in patients (p=0.03). Lack of awareness was another significant factor associated with treatment delay in BC patients. About 25 (65.5%) women*

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who reported a lack of awareness sought treatment after 10 months of their first onset of symptoms (p=0.001). Cultural beliefs were a significant cause of treatment delay of 10-12 months in 77.8% of patients (p=0.021). Financial constraints significantly correlated with treatment delay (p=0.015). ***Conclusion:*** *The cultural beliefs, poor financial status, and lack of awareness are the significant factors for the treatment delay in BC patients. Promoting female health awareness can tackle many of these issues.*

Keywords: *Breast Cancer, Time Delays, Socioeconomic Factors.*

INTRODUCTION

Breast cancer (BC) is the most common cancer and a major health problem worldwide, and the leading cause of death among women. Globally, breast cancer (BC) is the most common cancer in women and is increasing in developing countries[1]. The incidence of BC is increasing worldwide, but early diagnosis and advanced treatments lead to higher survival rates in developed countries[2,3]. Approximately one million women are diagnosed with BC every year[3]. Essentially, a higher proportion of BC cases is observed in women who self-detect the symptoms[4,5], regardless of structured breast self-examination[6]. It is estimated that one in nine women will develop BC. This is the highest incidence in Asian populations[3,7]. Prospects for improvement, cure, quality of life and survival depend heavily on early diagnosis and detection of BC and initiation of treatment. Delayed diagnosis may lead to advanced stages of the tumor[8,9]. In Bangladesh, socio-cultural concerns, inadequate access to health facilities, lack of diagnostic tools, illiteracy or low education, lack of awareness of the signs and symptoms of BC, low socio-economic status, use of traditional remedies and misunderstandings among people are some of the reasons. Being female is believed to contribute to delayed treatment and thus may lead to poor prognosis at the time of initial diagnosis[10,11,12]. Delay in diagnosis and treatment of BC may severely affect the chances of survival[13,14]. Treating cancers diagnosed at later stages is associated with higher morbidity and costs due to more aggressive and disfiguring treatment approaches. Therefore, shortening these delays is considered crucial. Cancer treatment delays can be categorized into patient-related, physician-related, and system-related factors[15]. Although factors associated with cancer treatment delays have been well described[16], data on their relative impact and mitigation strategies are lacking. Most studies conducted to date have addressed patient-related delays, while few have investigated system-related delays[17]. Therefore, this study was conducted to identify risk factors causing treatment delay in BC patients. This study may be helpful in early treatment and management of BC patients, promoting women's health education, improving survival rate and prognosis of BC patients.

METHODS & MATERIALS

A prospective observational study was conducted at Dept. of Surgery, Enam Medical College Hospital, Savar, Bangladesh from January to June 2022. The sample size was estimated using Open epi online sample size calculator by taking the frequency of factor associated with treatment delay of BC, i.e., negative

physical breast examination as 24.4%[11], the margin of error as 5%, and 95% confidence level, the calculated sample size came out as 100.

All women aged 18–70 years who were diagnosed with BC and had treatment delays of more than 6 months were included in the study using non-probability consecutive sampling method. Women with psychiatric disorders who did not provide consent were excluded from the study. Written or verbal informed consent was obtained from all eligible patients. Face-to-face interviews were conducted by the researchers themselves, and all data regarding demographic characteristics and factors associated with treatment delays for BC were collected with a structured questionnaire.

Data was entered and analyzed using SPSS version 21 (IBM Corp., Armonk, NY). Quantitative variables were presented as mean and SD whereas qualitative variables were presented as frequency and percentage. One-way ANOVA was applied to address the delay time with factors related to treatment delay. A p-value ≤ of 0.05 was taken as statistically significant.

RESULTS

A total of 100 patients were included in the study. The age of the patients was 45.38±11.58 years. The mean BMI was reported as 26.28±5.49 kg/m^2. The majority of the patients were living in urban areas (n=70, 70.0%) whereas 30 patients (30.0%) were living in rural areas. Most of them were illiterate (n=52, 52.0%), belonged from low class (n=75, 75.0%), housewives (n=84, 84.0%) and married (n=64, 64.0%) as shown in **[Table I].**

Table I: Sociodemographic characteristics of the study population (*n*=100)

Characteristics	Mean ± SD
Age (years)	45.38±11.58
BMI (kg/m2)	26.28±5.49
	***n* (%)**
Residence	
Urban	70 (70.0)
Rural	30 (30)
Education	
Illiterate	52 (52.0)
Primary	27(27.0)
Intermediate	15 (15.0)
Graduate	5 (5.0)
Postgraduate	1 (1.0)
Socioeconomic status	
Low class (income: <10000 Taka)	75 (75.0)
Middle class (income: 11000-30000 taka)	17 (17.0)
High class (income: >30,000 taka)	8 (8.0)
Occupation	
Student	3 (3.0)
Housewife	84 (84.0)
Employed	12 (12.0)
Unemployed	1 (1.0)
Marital Status	
Married	64 (64.0)
Separated	8 (8.0)
Single	6 (6.0)
Widow	22 (22.0)

According to factors associated with treatment delay, almost more than half of the patients had financial constraints 53 (53.0%). 43 (43.0%) women informed us about the lack of support (like moral, financial, and social support). 36 (36.0%) women had a lack of awareness or misconception regarding treatment and 30

(30.0%) women had treatment delay due to inaccessibility to healthcare. About 22 (22.0%) women had fears of social embarrassment regarding the treatment of disease, 20 (20.0%) did not seek treatment due to cultural beliefs, and 19 (19.0%) women had avoided treatment due to the unavailability of a female doctor. Approximately 20 (20.0%) females were presented late due to prior use of traditional methods such as unconventional and herbal therapy. 6 women (6.0%) had appointment delays; 6 (6.0%) women had concerns regarding cosmetic disfigurement as described in **Figure I.**

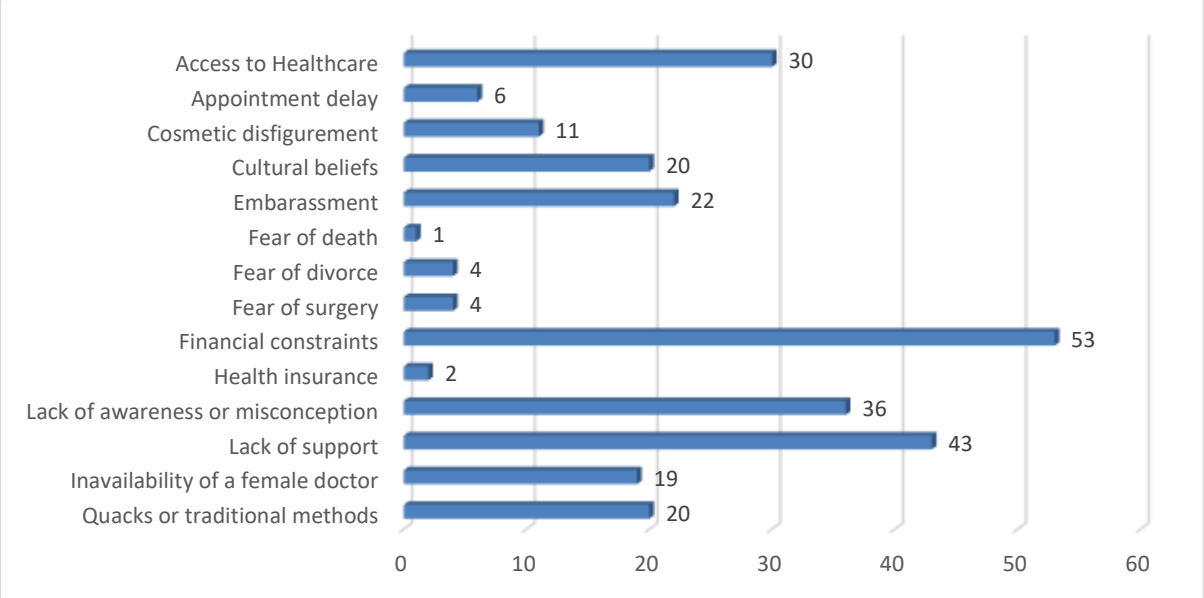

Figure I: Factors associated with treatment delay in patients with breast cancer.

Appointment delay was significantly associated with the treatment-seeking delay in patients (p=0.03). Lack of awareness was another significant factor associated with treatment delay in BC patients. About 25 (65.5%) women who reported a lack of awareness sought treatment after 10 months of their first onset of symptoms (p=0.001). Cultural beliefs were a significant cause of treatment delay of 10-12 months in 77.8% of patients (p=0.021). Financial constraints significantly correlated with treatment delay (p=0.015). Over one-half of the patients with financial constraints had treatment delays of more than nine months **(Table II).**

Table II: Factors related to treatment in association with duration of delay (*n*=100)

Factors	Duration of delay		p-value
	6-9 months (n=46)	10-12 months (n=54)	
Traditional methods			
Yes	13(48.14%)	14(51.86%)	0.911
No	33(45.2%)	40(54.8%)	
Appointment delay			
Yes	2(22.2%)	7(77.8%)	0.03
No	44(48.3%)	47(51.7%)	
Lack of awareness			
Yes	15(37.5%)	25(62.5%)	0.001
No	31(51.6%)	29(48.4%)	
Fear of surgery			
Yes	2(40.0%)	3(60.0%)	0.857
No	44(46.3%)	51(53.7%)	
Fear of death			
Yes	0	2(100%)	0.188
No	46(46.7%)	52(53.3%)	
Fear of divorce			
Yes	2(33.3%)	4(66.7%)	0.291
No	44(46.8%)	50(53.2%)	
Cultural beliefs			
Yes	6(30.0%)	14(70.0%)	0.021
No	40(50.0%)	40(50.0%)	
Unavailability of a female doctor			
Yes	10(43.4%)	13(56.6%)	0.574
No	36(46.7%)	41(53.2%)	
Financial constraints			
Yes	20(34.4%)	34(56.6%)	0.015
No	26(56.5%)	20(43.5%)	
Access to healthcare			
Yes	13(44.8%)	16(55.2%)	0.937
No	33(46.4%)	38(53.6%)	
Embarrassment			
Yes	9(40.9%)	13(59.1%)	0.519
No	37(47.4%)	41(52.6%)	
Lack of support			
Yes	18(41.7%)	25(58.3%)	0.173
No	28(49.1%)	29(50.9%)	
Quacks or herbal treatment			

Yes	8(42.1%)	11(57.9%)	0.672
No	38(46.9%)	43(53.1%)	
Health insurance			
Yes	1(33.3%)	2(66.7%)	0.99
No	45(46.4%)	52(53.6%)	
Cosmetic disfigurement			
Yes	5(55.5%)	4(44.5%)	0.757
No	41(45.1%)	50(54.9%)	

DISCUSSION

Morbidity and mortality in BC patients are directly related to delays in patient treatment[18]. Understanding the reasons for delays may lead to shorter delay times and earlier detection of the disease. Late presentation of BC patients is the most important factor for delayed treatment. Our results are consistent with previous literature. A study by Maghous et al. found that about 70% of women delayed treatment for personal reasons, and 72% of women with BC symptoms delayed treatment for more than 6 months[19]. Talpur et al. study found that about 95% of women visited a doctor 6 months after diagnosis, and 38% of women presented with stage 3 tumors[20]. Another similar study by Gulzar et al. found that 89% of women delayed treatment for more than 3 months[21]. Baig et al. in their study found that the mean delay was 8.1 months with almost 66% of patients having a delay of more than 6 months[22]. In the present study, the mean age of patients at diagnosis was 45.38 years. Almost the same results were observed in a Bangladesh study by Gulzar et al. with a mean age of 44.1 years[21]. Meanwhile, a study conducted in India showed that the mean age of patients at diagnosis was higher, for example, 51.05 years[23]. In the present study, 70.6% of the patients lived in urban areas and most of them were illiterate (52.3%) and belonged to the lower class (75.6%). It was also found that most of the women were married and housewives. A similar study by Khan MA et al. also found that majority of the women were above 40 years of age, had less than 8 years of schooling, were from poor or low socio-economic background, and were married[24]. In the present study, 53.3% of the women experienced financial problems, followed by lack of support (43.7%), lack of awareness about treatment (30.5%), and lack of access to healthcare. The reasons for the high frequency of these factors are low income, illiteracy, and residential location far from specialized medical care. Most of the population in Bangladesh is low-income and therefore cannot afford to pay high tuition fees to educational institutions. In this study, many other factors such as cultural beliefs and past use of traditional methods were identified as contributing factors to delayed treatment of BC due to lack of education. Thus, lack of awareness and support are closely associated with delayed treatment in BC patients[25,26]. A study by Ayaz et al. 62.3% of women reported delaying their visit because they were unaware of BC treatment options[27]. Gulzar et al. study found that 96% of women delayed visiting the doctor due to ignoring symptoms and a non-painful lump in the breast, 81% feared the cost of

treatment, 73% feared being treated by a male doctor, and 71% had previously received conventional treatment. 65% suffered from social stigma, 61% had access to spiritual healers, and 37% of women had no access to medical care[21]. Most of them used alternative medicines (72%) for treatment, did not pay attention to signs of breast cancer, and sought medical advice from charlatans or spiritual healers rather than oncologists[21,28]. The study revealed factors such as social embarrassment related to the diagnosis of the disease in 21.8% of women, avoidance of treatment due to purdah (veil) in 19.3% of women, delay in appointment due to absence of specialist in 6.1% of women, and anxiety. 5.6% of women were concerned about cosmetic scars, 4.1% fear of divorce, and 3.6% were concerned about the surgery. Other factors such as previous visits to pseudo-hospitals, lack of health insurance, and fear of death also contributed slightly to delays in BC treatment. The belief that surgery and treatment will cause disability and disfigurement is also associated with late manifestations of breast cancer[29]. Improved access to healthcare could increase the cure rate at the early stages of the tumor. Governments and NGOs should also play a role in setting guidelines for breast cancer treatment and providing funds for patients who cannot afford treatment. In the long run, these efforts will reduce the incidence and improve survival rates of breast cancer patients in Bangladesh. Most developing countries lack the infrastructure for screening and early detection of breast cancer, but early detection could reduce the burden on medical facilities for incurable breast cancer patients. In Bangladesh, people are unwilling to bear the cost of health facilities due to the social security system. There is no breast cancer screening program and mammograms are expensive. Raising awareness about breast self-examination and making people understand that early cancer is curable can prevent delay in treatment and reduce mortality.

Conclusion:

The results of this study showed that cultural beliefs, poor financial status, late appointments and lack of awareness are the most important factors for treatment delay among breast cancer patients. There is an urgent need to raise awareness among rural women about this disease and cancer treatment centers should be set up in primary health care units so that this disease can be diagnosed at an early stage. Screening tests should be made available in a cost-effective manner for low-income patients.

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