

# The Importance of Clinical Data & Prevalence of Breast Tumors in South Punjab, Pakistan

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## ABSTRACT

**Background:** In Western countries, middle-aged women are more vulnerable to breast cancer. Globally, almost a million new cases were identified in 1998. One in 12 women in England and Wales will get the disease at some point.<sup>1</sup> Even 5,000 years after it was first reported, the etiology of breast cancer is still unclear, and effective preventative measures are even further off.

**Aim:** To characterize the varied ways in which breast cancer has presented itself among patients at Bahawal Victoria Hospital in Bahawalpur.

**Methods:** This investigation employed a descriptive case series research design. This research was conducted at Bahawal Victoria Hospital's Surgery Department in Bahawalpur (Pakistan). From March 13th, 2020 through March 12th, 2021, the study was conducted (12 months). With their assent, 100 women with definite cases of breast cancer were enrolled in the study.

**Results:** Cancer of the breast most commonly affected women between the ages of 31 and 50 (59%). Seventy-six patients arrived from the outlying rural areas of Bahawalpur and the neighboring districts. Only 18 patients had completed high school after 10 years and 5 patients were discovered to be college graduates. The single rate was 12%, with 12 patients. Eighty-one percent of patients reported having a breast lump. 56% of breast cancers involve the left breast, while 43% involve the right. One patient alone had breast cancer that had spread to both of her breasts. Illness duration varied from 1 month to 5 years. Stage III was the most prevalent presentation, with 46 instances, and Stage IV was the least common, with 16 patients. The histological hallmark most frequently attested by examination of slides was infiltrating ductal carcinoma, and this was the case in 87% of the cases.

**Conclusion:** Breast cancer is very common cancer in the females, and most commonly it presented as a lump in the breast, because of some social aspects, lack of awareness, poverty, no proper screening programs and above all the fear of diagnosis, females try to hide this problem and often it presented at late and more advance stage.

**Keywords:** Breast, Nipple, Cancer, Lump, Surgery, Tumor

## INTRODUCTION

In Western countries, middle-aged women are more vulnerable to breast cancer. Globally, almost a million new cases were identified in 1998. One in 12 women in England and Wales will get the disease at some point.<sup>1</sup> Breast cancer has been described for over 5,000 years, yet its etiology and a reliable method of prevention remain unknown.

Breast cancer's clinical manifestations vary from country to country, according to factors including the standard of living there, the prevalence of health education, and the general public's understanding of breast cancer.<sup>2</sup> Approximately five percent of women in the United Kingdom diagnosed with breast cancer will have advanced illness at the time of diagnosis. Almost 20% of this occurs in less developed countries.<sup>1</sup> Most cases present in the fifth or sixth decades of life.<sup>4</sup> Only 2% to 3% of women diagnosed with breast carcinoma will develop cancer in both breasts.<sup>5</sup> Diagnosis of cancer in pregnant women typically occurs later than in non-pregnant women.<sup>6</sup>

Breast cancer strikes younger age groups in Pakistani women. They tend to be large when first diagnosed and to spread to the lymph nodes in the armpit.<sup>7</sup> Furthermore, we are unable to recognize this lethal malignancy at the earliest possible stage without accurate information regarding the various clinical presentations of carcinoma breast. Early detection of breast cancer is crucial and should be prioritized at all costs.<sup>8</sup>

When caught early, breast cancer can be cured with surgery, radiation therapy, chemotherapy, and hormone therapy.<sup>9</sup> Identifying disease at its earliest stages, when it is most treatable,

is the focus of this discussion. Lacking a comprehensive tumor registry system, it is challenging to define the breast cancer epidemiology in Pakistan. Carcinoma of the breast can present itself in a number of ways that are unlikely to cause undue anxiety in a woman.

This research has the potential to shed light on the nature of breast carcinoma and provide insight into the scope of the disease's prevalence in Bahawalpur.

## METHODOLOGY

This study included all women of any age who were diagnosed with breast cancer and hospitalized at BVH Bahawalpur for treatment between March 13<sup>th</sup>, 2020, and March 12<sup>th</sup>, 2021. With 1,600 beds, Bahawal Victoria Hospital in Bahawalpur is a teaching facility associated with Quaid-e-Azam Medical College. The Department of Surgery offers four surgical wards for both general surgery and surgical sub-specialties. The objective of the study was to describe the different modes of presentation of carcinoma breast affecting the females who presented at Bahawal Victoria Hospital, Bahawalpur.

This study employed a descriptive case series study approach and 100 patients met the study's criteria were included. All female patients of any age who were diagnosed with carcinoma breast on histology were included in the study. Patients with a previous diagnosis or with a recurrence of carcinoma were not included, nor were those who were initially included in the research based on clinical assessment or radiological evidence but whose lack of cancer breast on histopathology was afterwards proven.

Triple assessment was used to make the diagnoses for all the patients. Diagnostic triage consists of a thorough physical exam, imaging, and laboratory testing (either mammography or

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ultrasound). Including the Study of Cytopathology (either FNAC or core biopsy). Patients meeting the inclusion criteria had their medical histories and basic socio-demographic information (such as age, marital status, and parity) extracted from their medical records. UICC TNM staging was used to evaluate the disease's severity upon presentation. Ultrasonography examination (USG) and mammography were also performed in addition to the standard clinical evaluation in clinically selected instances. For a more accurate evaluation of the axillary lymph node distribution, USG was performed. Both a clinical examination and an ultrasound were performed on the axillary lymph nodes.

All patients were given a full battery of diagnostic procedures, including a full blood count, urine analysis, serum sugar, urea, creatinine, liver functions tests, chest x-rays, ultrasounds of the abdomen, spleen, liver, and bile ducts, and a brain and bone scan if necessary. The collected data was entered into standardized templates. Age, education, parity, breastfeeding, symptoms, and clinical indicators are just some of the factors that have been tabulated. Frequencies, means, and standard deviations were computed using SPSS version 26.0.

**RESULTS**

This study was conducted at Department of Surgery Bahawal Victoria Hospital Bahawalpur. All female patients with histological proven carcinoma breast of all age groups were included in this study. Total 100 patients were selected. In the present series the mean age of the patient at presentation was 46.60 SD 10.86 years. The youngest patient was 18 years and oldest patient was 70 years old. The commonest age group of incidence was 31–50 years (59%). Only 05% of cases were below the age of 30 years while 12% of cases were above the age of 60 years.

Majority of the patients (76%) came from rural areas of Bahawalpur and nearby districts and most of them have taken treatment from local quacks and hakims. Rests of the patients were from urban areas of Bahawalpur, Bahawalnagar, Rahim Yar Khan, Lodhran, Vehari. Most patients were admitted through out patient department and some were admitted through emergency department.

In the current study, the results regarding marital status, parity and breast feeding were evaluated. Among 100 patients with Carcinoma breast, only 12 patients (12%) were un-married. Among 88 married patients, 6 (6.81%) were nulliparous and 82(93.17%) were parous. We further observed that 70 patients (85.27%) for breast feeding and only 12 patients (14.63%) were not feeding among 82 parous patients. Twenty six patients had 1-4 children and 56 had more than four children. Seventy patients breast fed their children and duration ranged from six months to 30 months.

Most of the patients included in the study were found from poor socioeconomic and illiterate background as only 18 patients completed 10 years of schooling while only 5 patients were found post-graduate. Illiteracy and lack of knowledge may be considered as a major factory of late presentation of breast cancer in our setup. Of the total 100 patients only six had family history of breast cancer. Mothers of two patients died from malignancy of unknown origin (documented medical record was not available). Three patients had history of previous surgery for breast abscess and these suffered from breast abscess about 15 years before developing breast cancer.

Majority of the cases (81%) presented with lump and associated symptoms. Lump was slowly progressive in size but as size increased it associated with pain, nipple discharge and other associated symptoms. Eleven patients presented with the lump associated with ulceration of the overlying skin and they were found to have advance disease. Ten cases (10%) of the patients presented with more advance disease as they presented with fungating growth with foul smelling purulent discharge and associated systemic symptoms of fever, cough, and weight loss and anorexia. Patients with advance disease presented more than a year after appearance of initial symptoms. Three patients

presented with bone pains alone and when investigated it was found to have metastatic lesions in vertebra and primary source was found in breast.

Left breast involve in 56% of cases and right breast 43% cases. We found only one patient having bilateral carcinoma of breast. The patient with bilateral disease presented in advance stage and the duration of appearance of symptom, that was lump, was 5 years back and the second breast involved 3 years later. Majority of the lumps and maximum number of cancers were detected in upper and outer quadrants (53%). In Lower inner quadrants we found no case. The duration of illness i.e. detection of lump or other symptoms by the patient till medical advice was sought ranged from 1 month to 5 years of complaints. Forty four (44) patients presented after one year of appearance of clinical symptoms. The delay in reaching the hospital was due to several reasons including lack of education, poverty, lack of knowledge about appropriate referral center, fear about excess charges at big hospital and false reassurance by quacks at periphery about the cure of disease by application of local creams and even by using some kind of Taveez.

Twelve (12) patients even had received incision in try to drain the lump of breast considering it to be as an abscess in the periphery by 'Unani' hakeems, quacks and poorly trained health care personnel. While analyzing the clinical stage of Carcinoma breast, based on Tumor size, Lymph Nodes and Metastasis (TNM) system of clinical staging, the tumors varied in size between 2 cm to 14 cm. Only nine (9) patients were in early stage of disease and the rest of the 91 patients were in Stage II, III and IV. Majority of the cases were found in stage III while 16% patients were having stage-IV.

Table 1

	Marital status	n	%age
Marital status, parity and breast feeding amongst female patients (N=100)	Un-married	12	12%
	Married	88	88%
	a. Nulliparous	6	6.81%
	b. Parous	82	93.17%
	Breast feeding	70	85.27%
	No breast feeding	12	14.63%
	Graduation	8	8%
	Post-graduation	5	5%
	<b>Total</b>	<b>100</b>	<b>100%</b>
Local clinical features	<b>Clinical presentation</b>		
	Painless lump	39	39%
	Lump + pain	17	17%
	Lump + nipple discharge	14	14%
	Lump + Ulceration	11	11%
	Peau d'orange	06	06%
	Fungating mass	10	10%
	Bone pain	03	03%
	<b>Total</b>	<b>100</b>	<b>100%</b>
Duration of symptoms at presentation	<b>Duration(months)</b>		
	0 - 3	14	14%
	4 - 6	21	21%
	7 - 12	23	23%
	13 - 36	31	31%
	More than 3 years	11	11%
	<b>Total</b>	<b>100</b>	<b>100</b>
Stage at time of presentation	<b>Stages</b>		
	I	9	9%
	II	29	29%
	III A	15	15%
	III B	31	31%
	IV	16	16%
	<b>Total</b>	<b>100</b>	<b>100%</b>

The most commonly observed stage of presentation was III with 46 cases and 16% patients presented in stage IV, of the 16 metastatic cases, four patients presented with hepatomegaly due to secondaries from carcinoma breast, three patients had bony metastasis. Seven patients presented with tumor fixed to chest wall and two with pleural effusion. The histopathology was done in

all cases and only those were included in the study that was proven to be suffering from carcinoma breast. As the most common presentation was lump in 81% cases that was palpable at the time of presentation so the FNAC was done in 34% cases, Tru-Cut and excision biopsy in 53 cases. In remaining cases, incisional biopsy was done from ulcerative lesion of carcinoma breast.

Quadrantectomy with axillary sampling was done in stage I tumor (9 patients) followed by radiotherapy and chemotherapy. Simple mastectomy with axillary clearance level I/II/III was done in Stage II disease with adjuvant chemotherapy and radiotherapy. Modified radical mastectomy was done in tumor stage III (38 patients) with adjuvant chemotherapy and radiotherapy and in Stage IV toilet mastectomy (Salvage mastectomy) / modified radical mastectomy with palliative radiotherapy/ chemotherapy/ hormonal therapy was done in 8 patients while ten patients refused surgery. Histological confirmation and involvement of the lymph nodes was done by sending the operated specimen for histopathology.

Table 2: Side and site of breast lump

Site	Right	Left	Bilateral	Total
Upper outer quadrant	26	27	-	53
Upper inner quadrant	04	04	-	08
Lower outer	00	02	-	02
Whole breast	02	02	-	04
Central	10	18	01	29
Axillary tail	01	03	-	04
Total	43	56	01	100

## DISCUSSION

The global prevalence of breast cancer is on the rise. In many parts of Pakistan, it is the most frequent cancer in females.<sup>10</sup> As the number of new cases of breast cancer continues to climb, efforts to curb the disease are urgently needed. Many factors, including hormones, genes, and the environment, may all have a role in the development of breast cancer during the course of a patient's lifetime. According to studies, women in Pakistan have the highest rates of breast cancer in Asia.<sup>10</sup> Three-eighths of female malignancies treated at the Nuclear Medicine, Oncology, and Radiotherapy Institute in Islamabad, Pakistan, are caused by breast cancer<sup>11</sup>.

Due to a lack of a national cancer registry, we have no reliable data on the true prevalence of this disease in our country. Breast disease typically manifests as a lump, a sore, or a discharge from the breast or nipple. The primary goal in breast disease is to tell benign breast disease from the malignancy, which might arise from these lesions. In most cases, patients who first got a mammogram had already manifest symptoms of illness. One explanation was the general lack of knowledge about the issue<sup>12</sup>.

The patient's age is a crucial consideration in the diagnosis and treatment of cancer. The majority of patients (59%) were between the ages of 31 and 50 when they were diagnosed with breast cancer, and the mean age of the presenting case was 46.60±10.86 years. According to the findings of the study conducted by Shaikh SA<sup>13</sup>, the majority of cases (58.9%) occurred in the 31-50 year old age bracket. Although the aforementioned study found similar trends across all ages, there was a slight discrepancy between the younger and older groups.

Breast cancer typically strikes at a median age of 61.0 years old among white women in the United States.<sup>14</sup> This study shows that breast cancer manifests itself ten years earlier than it does in the West. More research is needed to determine the cause of this phenomenon in Pakistani women. One of Borovanova's<sup>15</sup> studies in the Czech population comes to a similar conclusion. Their research revealed an increase in cancer rates among young women. Although breast cancer is the most frequent female malignancy worldwide, patients in Singapore tend to be younger and appear at a more advanced stage (median age of 49 years), according to research by Lim SE<sup>16</sup>.

It has been suggested that early marriage, parity, and breast feeding can help reduce the risk of breast cancer, however Bhutta

et al<sup>17</sup> indicate that this is not the case in our context. The same findings are seen in another study by Saxena<sup>18</sup> from New Delhi Hospital in India.

It's impossible to anticipate how long someone will live after being diagnosed with breast cancer because some people show up with really advanced disease yet go on to live for much longer, and vice versa<sup>19</sup>.

Breast lumps were the most prevalent initial symptom in our sample. In total, 81% of patients who arrived with a lump also complained of pain or nipple discharge. When compared to other local research, these results are consistent and comparable<sup>20, 21</sup>.

The left side of the breast is more commonly affected by carcinoma than the right. Factors such as genetics, breast size, and newborn feeding practices have all been proposed as possible explanations. Similar to what was shown by Talpur (56%), we found that the left breast was implicated in 56% of cases.<sup>21</sup> Similar to the findings of Talpur, we found just one person who had breast cancer in both breasts. About 99% of breast cancers are unilateral, and a research done in India by Saxena<sup>18</sup> reveals similar results. Consistent with previous research from both the United States and other countries, we discovered that 53% of cases of breast cancer occurred in the upper and outer quadrant<sup>1</sup>.

The study's findings about symptom duration at presentation are the most startling. In most of our instances, the patients themselves made the diagnosis of breast cancer, and the tumors were already larger than 2 centimeters when they were first seen. Since only 1 in 5 patients (18%) presented to us within three months and 3 in 10 cases (37%) presented to us beyond one year from when clinical symptoms first appeared. Comparing our findings to those of Rasool M.I.'s research reveals striking similarities.<sup>22</sup> In his findings, 36.1% of the patients were presented after one year of appearance of clinical symptoms.

Among those who were diagnosed, only 9.1% were at stage I. According to the results of this study, over half of the breast cancer patients were diagnosed at a more advanced stage (Stage III). This highlights the need of raising cancer awareness and launching early detection initiatives. Our findings corroborate Saxena S's findings, which showed that the breast cancers presented were at an advanced stage<sup>18</sup>.

As opposed to what has been found in Western research. Mansfield<sup>23</sup> found 60% of patients to be in stage I of breast cancer, while a similar study by Jacobsons<sup>24</sup> found 52% of patients to be in stage I. Early identification of breast cancer is now commonplace in most industrialized nations thanks to health education campaigns and widespread use of screening mammography. Our country lacks these resources, thus a lump presentation is still the most typical form of diagnosis and treatment.

## CONCLUSION

The most important observation in this study is the increasing prevalence of the disease in relatively younger patients. The exact etiological factors could not be evaluated unless until the research should be extended through the community based programs. Thus these programs should be launched as early as possible.

The second conclusion is about the rural population, that our rural females are almost totally unaware of the disease due to prevailing illiteracy. Most of their breast complaints are attended by the quacks or poorly trained health care professionals using crude means of diagnosis and treatment. Wrong concepts about the treatment of the disease and fear of disfigurement are also another important factor of late presentation of the disease. As for the urban females, the majority hesitate to report the doctor with a breast complaint. Social and religious factors are the most probable factors to underlie such inhibited attitude in our females towards breast disease.

As a result, it is strongly advised that measures be taken to ensure early detection of breast cancer. The ability to detect disease early on in the presence of symptoms is dependent on the level of public education about breast health. Educating the public

that breast cancer is not always fatal and may often be "cured" through early detection is a crucial part of raising awareness.

**Conflict of interest:** Nil

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