Diagnostic and treatment delays in breast cancer in association with multiple factors in Pakistan

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Abstract

Background: Breast cancer has the highest incidence rate among all types of cancer worldwide. There is strong evidence that delay in presentation to an oncologist may lead to a decrease in survival.

Aims: This study explores factors causing diagnostic and treatment delays among the breast cancer patients enrolled in Jinnah Hospital, Lahore, from 2016 to 2018.

Methods: Data from 372 patients were collected, including tumour characteristics, first symptoms, knowledge and experience of breast cancer, first visit to a doctor, etc. We calculated the patient, physician, treatment, system and total delay intervals.

Results: Breast cancer cases showed longer mean patient delay in older women (> 50 years) in comparison with younger women. Women with painless lump as the initial symptom showed the longest delay with median total delay 280 days (25th and 75th percentiles 140 and 410 days respectively). Initial symptoms were correlated with total delay (P = 0.036). Educated women showed shorter delay in treatment compared with illiterate women (P = 0.068). Rural residence showed significant delay (P = 0.007). Lump size showed correlation with delay (P = 0.039). Patients with low household income (< Rs 10 000) had greater delay in diagnosis (P = 0.027) and actively employed women showed shorter delay (P < 0.0001). Unmarried women were diagnosed earlier than married (P < 0.001).

Conclusions: Women showed delay in presentation due to lack of resources and lack of awareness about the disease. They presented late due to fear of surgery and chemotherapy. Using traditional treatment methods leads to diagnosis of the disease at more advanced stages.

Keywords: breast cancer, time delays, socioeconomic factors, Pakistan

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Introduction

Breast cancer has the highest incidence rate among all types of cancer worldwide (*1*): the age standardized rate per 100 000 for breast cancer diagnosis was 46.3 in 2018. The rate for the developed countries was reported to be 75.2 in comparison to 32.8 for the developing countries. The International Agency for Research on Cancer reported breast cancer as the second most common cancer, with 11.6% of the total 18.1 million cancer cases in 2018 (*2*). Cancer is the leading barrier to increased life expectancy in the 21st century. There is strong evidence that delay in presentation to an oncologist may lead to a decrease in survival (*3*). These results highlight the need for research regarding awareness of the early warning signs of breast cancer in Pakistani women (*4*). Most breast cancers begin in the breast lobules or in the ducts of the breast, for which the most common sign is a painless lump (*5*). Breast cancer mortality can be reduced with early detection and improvements in the health care system (*6*).

The worldwide survival rates for breast cancer exhibit large variations across the globe from the developed to the developing countries. Indicators of 5-year survival rates from the developed part of the world include: America (83.2%), Australia (80.7%), Japan (81.6%) and Sweden (80.0%). In the developing countries, Algeria (38.8%) Brazil (58%), Gambia (12%) and India (52.1%) have noticeably low survival rates among diagnosed cases (*7*).

Delay is found between the the appearance of the first symptoms and time of diagnosis and initiation of treatment in women who have breast cancer. Early diagnosis and treatment within 30 days is beneficial for patients and helps to increase survival rates (*8*). Delay between the appearance of symptoms and presentation to an oncologist depends on the patient's behaviour and beliefs (*9*).

Long waiting times can lead to advancement and complications in the disease process. Li et al. studied Chinese breast cancer patients and associated the longer detection to treatment time interval with rural residence, low education level and older age (*10*). Nonavailability of early detection programmes increases delay in the detection of breast cancer at a curable stage. Pakistani oncologists follow the TNM staging developed by American Joint Committee on Cancer. The stage at

diagnosis indicates the expected prognosis. In a recent study in Pakistan, Gulzar et al. reported that 88.8% of breast cancer patients were diagnosed late and 59.0% at an advanced stage (*11*). The study associates 81.1% of delays to ignorance, painless lump and scarce financial resources. Lopes et al. in Brazil observed 102 days delay in diagnosis and 57 days delay in treatment of breast cancer (*12*). The study described low education as a main cause for late diagnosis. A study from Mali observed patient interval to report breast cancer of 4.8 months, diagnostic interval 0.9 months and treatment interval 1.3 months (*13*). They concluded that working women living in capital had shorter delay time in comparison to housewives and those living in rural areas. Maghous et al. reported delay in 70.1% patients due to personal reasons and 13.9% due to medical facility reason for Moroccan women (*14*). They recommended the training of medical practitioners and improving the awareness of general public about breast cancer to early detection of cancer. Jaiswal et al. found presentation to diagnostic time interval of 23 days and other treatment times within the published limits except time for radiotherapy at Denver hospital Colorado (*15*). They associated longer than median time intervals with ethnicity, language, stage, method of presentation and surgical treatment.

There are multiple factors to be focused on including growth rate of tumour, misunderstandings about cancer, age at detection, awareness in women and heath policy while addressing the core issue of early cancer detection. Breast cancer treatment has several sequential processes: surgery, chemotherapy and radiation therapy. Traditionally in Pakistan, mammography and biopsy are the choices for detection. Long waiting times in the diagnosis process can be reduced to increase patient comfort. Biopsy, consultation, surgical and patient-perceived wait times are some factors which increase the system delay in breast cancer treatment (*16*). Women with family history of breast cancer had greater awareness of breast cancer and experienced greater fear about the symptoms in comparison with women without any family history (*17*).

The main objectives of this study were to determine the number of women with breast cancer who experienced delay in diagnosis and to determine causes of late presentation and the factors that contribute to system delay and overall wait time at the beginning of treatment among breast cancer patients enrolled at Jinnah Hospital, Lahore during 2016–2018 using quantitative strategies.

Methods

Ethics

This study was carried out at Jinnah Hospital, Lahore, and was approved by the hospital ethical committee. The questionnaire and consent forms were designed in the local language, Urdu, for better communication. The consent form was prepared according to the guidelines of the ethical committee. The guidelines of the Helsinki Declaration were followed in conducting this research work. The consent forms were signed by the participants to accept the use of their medical records and interview data.

Participants

Data were collected during the 2 years January 2016–January 2018. Over this period, a total of 428 breast cancer patients were enrolled in Jinnah Hospital, Lahore. Those women who met the following criteria were included in the research:

- diagnosed case of biopsy-proven breast cancer
- understand Urdu
- visited Allam Iqbal Medical College/Jinnah Hospital for treatment
- complete records were available for them
- agreed to provide consent for participation in research.

Total population sampling allowed deep insight to study the factors involved in delay for the treatment and diagnosis of cancer. This is a method through which we included all the patients fulfilling our criteria and excluded those who did not meet the criteria. Total population sampling decreases the guesswork in research and provides a complete picture of the factors causing delays. From the 428 breast cancer patients attending during the study period, 372 fulfilled our inclusion criteria and the remaining 56 patients were excluded: 7 with benign lumps, 11 for noncooperative behaviour, 5 who had other cancers, 7 who were unable to answer the questions (for any reason), 6 who were mentally not able, 8 who did not agree to sign the consent form and 12 for whom information was missing on initial breast symptom and dates. The majority of related work utilized the whole population as the sample (*12–14,18*).

Women with self-detected or imaging-detected (mammogram or MRI) symptoms were included. All the patients were informed about the purpose of the study. We identified patients and took their medical history from the hospital medical records along with the date of admission and the date of surgery. When the patients were unable to provide the date of initiation of their symptoms, they were asked to provide the month and then the date was estimated as 15th of that month. The date of first consultation with a doctor was obtained from the receipt provided by the doctor to the patient. Each interview took 15–25 minutes but some took longer due to illiteracy and a socially complex environment. The interviews were conducted independently by trained staff. Information was collected about patient's tumour characteristics, first symptoms, experiences with a breast problem, their knowledge about breast cancer, first visit to a doctor, number of health care facility visits before the diagnosis, sociodemographic information, age, marital status, residential status, education, profession, monthly household income, comorbidities, tumour stage, history of breast disease and family history of breast cancer. We used the strategy to define the stage of the disease, I, II, III and IV. The patients were divided into 5 groups according to age (21–30, 31–40, years, etc.). Data on education level,

residential status and monthly household income were also collected.

Data

We categorized the delay into 4 types: patient delay, physician delay, system delay and treatment delay. Patient delay was defined as the time from the first appearance of symptoms to the first visit to a hospital. Physician delay was defined as the time from first consultation to diagnosis of the disease. Referral delay (period between first consultations with the health care provider to first referral to hospital) was considered a part of physician delay. The time from biopsy to surgery, from surgery to onset of chemotherapy or from biopsy to onset of chemotherapy and time from surgery to onset of radiotherapy were defined as system delay. Treatment delay comprised the time between the diagnosis of cancer to the start of treatment.

Questions were asked of the patients to determine the causes of late presentation such as: Were you using alternative/traditional medicine? Did you not have enough money to pay the hospital bills? Did you present late due to the lump being small and painless? We calculated the patient delay, physician delay, treatment delay, system delay and total delay intervals and determined the median and 25th and 75th percentiles among different groups of patients for the comparison of multiple factors. The percentile methods help in the comparison of health indicators in the environment.

Statistics

We used *SPSS* software for statistical analysis. The Pearson correlation and Chi-squared were used to determine the relationships between variables. Significance was set as $P < 0.05$.

Results

Delay

Characteristics of the participants are illustrated in Table 1. A total of 372 women were interviewed; all were residents of Punjab province; 81.7 were married. Age at the time of diagnosis was 20–68 years, 33.0% were in the range 41–50 years. Half the women reported painless lump as the initial symptom.

Table 2 shows patient delay, referral delay and oncologist delay. Different age groups show different patient delay, the shortest patient delay, median 40 days, was found in young women (11–20 years) and the longest patient delay, median 152 days was found in the age group from 51–60 years. Women with painless lump as their initial symptom showed the longest delay with median total delay 280 days. Lump size is also a significant factor in association with delay, patients with lump size 1–5 mm presented with median 244 days total delay, Q_{25} (136 days) and Q_{75} (382 days), longer than patients with lump size > 5mm.

Table 1 Characteristics of breast cancer patients (*n* = 372), Lahore, 2016–2018

Factors	No. (%)
Age at diagnosis (years)	
11–20	18 (4.8)
21–30	56 (15.0)
31–40	84 (22.5)
41–50	123 (33.0)
51–60	62 (16.6)
61–70	29 (7.8)
Initial symptoms	
Painless lump/tumour	189 (50.0)
Change in breast	48 (13.0)
Discharge/bleeding	33 (8.9)
Lump under arm	47 (12.6)
Dimpling	23 (6.1)
Rash	32 (8.6)
Cancer detection	
Self-detected	143 (38.4)
Exam detected	91 (24.5)
Imaging detected (mammogram or magnetic resonance imaging)	138 (37.1)
Education	
Illiterate	162 (43.5)
Primary	43 (11.5)
Middle	22 (6.0)
Metric	72 (19.3)
Intermediate	34 (9.1)
Bachelor	23 (6.1)
Masters	16 (4.3)
Family history of breast cancer	
Yes	64 (17.2)
No	308 (82.8)
Active employment	
Yes	87 (23.3)
No	285 (76.7)
Monthly household income (Pakistan rupees)[a]	
< 10000	84 (22.5)
10000–20000	62 (16.6)
21000–30000	65 (17.4)
31000–40000	78 (21.0)
41000–50000	53 (14.2)
>50000	30 (8.0)
Marital status	
Married	304 (81.7)
Unmarried	68 (18.3)
Lump size (mm)	
1–5	164 (44.0)
6–10	83 (22.3)
11–20	81 (21.7)
21–30	26 (6.9)
31–50	18 (4.8)

Table 1 Characteristics of breast cancer patients (*n* = 372), Lahore, 2016–2018 (*concluded*)

Factors	No. (%)
Tumour stage on diagnosis	
Stage I	75 (20.1)
Stage II	128 (34.4)
Stage III	102 (27.4)
Stage IV	67 (18.0)
First start self-treatment	
Yes	132 (35.5)
No	240 (64.5)
Place of residence	
Village	103 (27.7)
Town	93 (25.0)
Tehsil	57 (15.3)
District	68 (18.2)
Division	51 (13.7)
Menopausal status	
Premenopausal	128 (34.4)
Postmenopausal	244 (65.6)
Comorbid conditions	
None	257 (69.0)
≥ 1	115 (31.0)
First consultation	
Health worker or nurse	142 (38.1)
Doctor clinic	124 (33.3)
Private hospital	34 (9.1)
Government hospital	72 (19.2)

[a] *1 US$ = 139.9 Rs.*

A difference was found between married and unmarried women in regard to in total delay. The unmarried women showed short patient delay compared with married women, however physician and system delay were almost the same. Educated women showed a shorter delay in treatment compared with illiterate women. Working women faced shorter physician and system delay. Women who were dependent on their family showed longer patient delay compared with those who were independent.

We combined the referral and oncologist delay into a single term physician delay (Table 3). System delay and treatment delay are also shown in Table 3. There was a significant difference in total delay time among the women according to their area of residence. Patients from villages and small towns showed longer patient delay and faced longer physician and system delay compared with those who lived in cities (Tables 2,3). Women from villages also showed total delay higher than in cities with median 276 days; 25th and 75th percentiles were 163 and 370 days respectively, (Table 4). Household income was an important factor.

Patients with low household income (< 10 000 rupees) showed longer delays in diagnosis and treatment (Table 3); we found that most of these patients had started treatment with nonmedical traditional methods. Patients with household income > 50 000 rupees faced shorter physician and system delay and had a shorter total delay in treatment (Table 4).

Factors associated with delay

The association between multiple factors and delays was calculated using the Pearson correlation (*r*). For initial symptoms, $r = 0.847$ ($P = 0.036$), i.e. there is a strong association between delay and symptoms initially noticed (Table 5). Residence was also associated with delays: $r = 0.965$ ($P = 0.007$). There was a correlation between monthly income and delay ($r = 0.86$, $P = 0.027$). Delay has a correlation $r = 0.896$ with lump size ($P = 0.039$). Education was also correlated with delay ($r = 0.7195$), but this was not statistically significant ($P = 0.068$). Age was not strongly associated with delay ($P = 0.322$).

Chi-squared test results associating total delay with active employment, menopause status and marital status are shown in Table 6. For marital status chi-squared was 49.917, and this was statistically significant ($P < 0.001$). Actively employed women had significantly shorter delay times: chi-squared was 21.588 ($P < 0.001$). For menopause status, chi-squared was 2.731, but this was not statistically significant ($P = 0.098$).

Discussion

This research work has revealed that women with breast cancer in Pakistan presented with significant delays, which leads to a high mortality rate. Although it is important to research delays in breast cancer patients, limited related studies are conducted in Pakistan. Our research reported 65% patients had a delay of more than median 90 days in Lahore in comparison with a study conducted by Habibullah et al. in Karachi with 50% women (*19*). Gulzar et al. reported 92.8% of patients with initial symptom of painless lump in comparison to 50% in our study (*11*); painless lump was an important factor for delay in both studies. The common causes reported in patients in previous studies were lack of awareness and lack of knowledge related to breast cancer. This leads to diagnosis at later stages and consequently to lower survival rates. Grossie et al. in a study in Mali reported median time to visit first medical advice was 144 days (*13*). Kitano et al. researched treatment delay among 18% of breast cancer patients in Tokyo (*20*).

Our study has highlighted multiple factors responsible for the delays in breast cancer patients at Lahore, Pakistan. Multiple causes are recognized in the process of diagnosis and treatment of breast cancer. The women considered their breast changes temporary and harmless, in addition painless lump made them feel relaxed. The general public remains ignorant about these important signs and symptoms of breast cancer, which can lead to death due to negligence. The low literacy among our sample lead to ignorance and caused the other factors of delay to emerge. The cultural beliefs made it difficult for the population to realize the importance of women's education. This study emphasizes the fact that

Table 2 Patient, physician and oncologist delay in breast cancer patients, Lahore, 2016–2018

Characteristic	No.	Patient delay (days)			Referral delay (days)			Oncologist delay (days)		
		Median	25th	75th	Median	25th	75th	Median	25th	75th
Overall	372	255	120	345	16	7	24	7	4	14
Age (years)										
11–20	18	40	24	70	10	6	18	5	3	11
21–30	56	60	30	165	12	7	21	4	2	9
31–40	84	126	45	216	16	9	30	6	3	12
41–50	123	115	64	184	15	9	32	5	2	10
51–60	62	152	90	224	12	5	24	8	5	14
61–70	29	146	84	173	20	11	36	7	3	15
Initial symptoms										
Painless lump/tumour	189	180	105	325	24	8	38	6	2	12
Change in breast	48	124	63	186	16	5	24	7	4	16
Discharge/bleeding	33	135	74	215	14	8	25	8	3	16
Lump under arm	47	90	45	120	15	6	28	6	2	10
Dimpling	23	135	85	180	9	4	21	5	2	9
Rash	32	75	30	105	12	7	25	8	3	14
Menopausal status										
Premenopausal	158	135	60	205	18	7	28	9	4	16
Postmenopausal	214	165	90	255	16	5	24	12	5	20
Marital status										
Married	304	225	145	300	18	12	30	8	3	15
Unmarried	68	180	105	230	15	8	21	7	2	11
Education										
Illiterate	162	240	135	320	14	5	22	9	4	16
Primary	43	225	120	270	15	6	28	7	3	12
Middle	22	165	75	210	12	5	20	8	5	14
Metric	72	180	90	240	16	9	30	7	4	15
Intermediate	34	115	60	195	18	10	28	6	2	12
Bachelor	23	60	25	135	14	5	24	8	3	16
Masters	16	45	30	90	11	6	20	5	2	10
Household income (Rs/month) [a]										
< 10000	84	270	135	330	22	12	38	8	4	16
10000–20000	62	240	120	315	20	9	36	8	3	14
21000–30000	65	195	105	280	12	7	24	6	2	10
31000–40000	78	165	90	225	9	4	20	9	4	14
41000–50000	53	120	90	180	11	5	25	7	4	12
> 50000	30	75	30	105	8	3	15	6	3	10
Area of residence										
Village	103	285	150	360	25	10	40	10	4	18
Town	93	225	120	320	18	7	30	10	6	15
Tehsil	57	180	115	280	15	6	24	8	5	16
District	68	150	90	210	10	4	18	6	3	10
Division	51	105	75	165	5	2	12	6	4	12
Active employment										
Yes	87	120	90	195	12	7	21	8	5	14
No	285	240	150	345	18	11	32	12	5	18
Lump size (mm)										
1–5	164	255	120	330	12	5	32	9	4	12
6–10	83	210	105	300	9	4	20	8	3	16
11–20	81	120	75	205	11	6	21	6	2	11
21–30	26	105	60	135	14	6	30	5	2	7
31–50	18	45	15	60	18	7	32	3	2	6

[a] *1 US$ = 139.9 Rs.*

Table 3 Physician, treatment and system delay in breast cancer patients, Lahore, 2016–2018

Characteristic	No.	Physician delay (days)			Treatment delay (days)			System delay (days)		
		Median	25th	75th	Median	25th	75th	Median	25th	75th
Overall	372	24	15	42	26	12	44	30	14	58
Age (years)										
11–20	18	15	9	28	14	5	21	20	8	32
21–30	56	16	8	30	16	6	28	28	10	40
31–40	84	24	12	40	24	12	40	30	12	54
41–50	123	20	11	42	20	7	32	26	11	58
51–60	62	20	10	34	26	10	30	24	9	38
61–70	29	18	13	28	12	4	21	22	6	30
Initial symptoms										
Painless lump/tumour	189	30	10	50	30	13	40	40	12	64
Change in breast	48	23	8	40	22	7	34	28	8	46
Discharge/ bleeding	33	22	11	41	24	11	38	26	7	42
Lump under arm	47	21	8	38	28	12	44	30	10	40
Dimpling	23	14	6	30	20	7	32	28	8	40
Rash	32	20	10	39	26	11	42	22	7	38
Menopausal status										
Premenopausal	158	27	11	44	30	12	45	30	14	52
Postmenopausal	214	28	10	40	32	15	48	26	16	60
Marital status										
Married	304	26	15	45	26	12	46	26	12	45
Unmarried	68	22	10	38	20	8	32	25	11	38
Education										
Illiterate	162	23	9	36	29	9	41	36	11	56
Primary	43	22	13	40	24	12	40	32	12	54
Middle	22	20	10	34	23	9	32	29	10	50
Metric	72	24	13	44	25	14	38	34	12	58
Intermediate	34	24	12	40	20	8	30	26	13	38
Bachelor	23	18	10	36	16	6	28	20	8	32
Master	16	16	8	30	12	4	21	16	7	28
Household income (Rs/month) [a]										
< 10000	84	28	16	46	30	12	46	42	12	64
10000–20000	62	30	12	42	26	12	38	38	10	60
21000–30000	65	18	9	34	22	8	36	34	14	52
31000–40000	78	18	8	36	24	10	32	30	12	46
41000–50000	53	16	9	35	18	7	28	26	10	40
> 50000	30	14	6	25	16	5	22	18	8	26
Area of residence										
Village	103	35	14	58	26	12	48	42	14	62
Town	93	28	12	45	28	15	46	38	12	56
Tehsil	57	16	7	28	26	11	40	32	11	52
District	68	12	6	26	22	9	36	28	8	40
Division	51	10	5	24	16	6	22	22	7	32
Active employment										
Yes	87	20	11	35	18	12	30	24	9	38
No	285	26	12	44	24	16	44	36	15	60
Lump size (mm)										
1–5	164	21	8	44	28	12	42	30	12	62
6–10	83	17	6	36	22	10	38	32	15	54
11–20	81	16	8	32	20	8	32	24	10	42
21–30	26	12	5	28	18	8	26	18	10	36
31–50	18	8	3	18	12	5	20	10	6	28

[a] *1 US$ = 139.9 Rs.*

Table 4 Total delay in breast cancer patients, Lahore, 2016–2018

Characteristic	No.	Total delay (days)		
		Median	25th	75th
Total	372	310	160	430
Age (years)				
11–20	18	85	40	150
21–30	56	120	55	230
31–40	84	180	80	310
41–50	123	185	90	270
51–60	62	210	114	314
61–70	29	190	106	270
Initial symptoms				
Painless lump/tumour	189	280	140	410
Change in breast	48	200	80	305
Discharge/bleeding	33	205	75	285
Lump under arm	47	160	70	240
Dimpling	23	132	92	206
Rash	32	120	63	192
Menopausal status				
Premenopausal	158	264	150	345
Postmenopausal	214	286	174	330
Marital status				
Married	304	315	260	416
Unmarried	68	214	95	324
Education				
Illiterate	162	282	163	368
Primary	43	270	106	320
Middle	22	190	84	276
Metric	72	228	127	308
Intermediate	34	130	73	285
Bachelor	23	116	68	194
Masters	16	96	59	137
Household income (Rs/month) [a]				
< 10000	84	330	264	412
10000–20000	62	283	196	365
21000–30000	65	245	143	336
31000–40000	78	228	106	312
41000–50000	53	185	94	278
> 50000	30	124	65	186
Area of residence				
Village	103	276	163	370
Town	93	243	146	335
Tehsil	57	184	78	246
District	68	172	65	208
Division	51	152	60	186
Active employment				
Yes	87	178	87	214
No	285	285	194	358
Lump size (mm)				
1–5	164	244	136	332
6–10	83	218	145	280
11–20	81	160	84	238
21–30	26	126	58	173
31–50	18	64	42	86

[a] *1 US$ = 139.9 Rs.*

Table 5 **Correlation between selected factors and total delay among breast cancer patients (*n* = 372), Lahore, 2016–2018**

Factor	Correlation (*r*)	*P*-value
Area of residence	0.965	0.007
Lump size	0.897	0.039
Income per month	0.8617	0.027
Initial symptoms	0.847	0.036
Education	0.7197	0.068
Age	0.491	0.322

education can significantly reduce delays. Less-educated patients cannot effectively decide about their health issues in a proper time period. Jassem et al. studied delays in 12 countries and noted that higher education was associated with less delay (*21*). The perception among a population that cancer is incurable and treatment is not available makes the life of breast cancer victims shorter. Both ignorance and illiteracy lead to the presentation of disease at later stages. It is important in developing countries like Pakistan to identify high risk patients in a timely manner and to treat new cases with curative intent.

A cohort study from the United States of America reported financial problems caused self-delay in 17% of breast cancer patients below 40 years of age (*22*). Our study shows low income per month is highly correlated with delay in treatment. Low financial status prioritizes health at a low level in comparison with other essentials of everyday life. We found that employed women underwent less delay in comparison with unemployed women. Other research has found employment to be a barrier in the process of diagnosis and treatment of breast cancer (*23*). Employment is the characteristic of educated and self-dependent women: employed women take their own decisions and face fewer social and cultural barriers. Homemakers are financially and culturally dependent on husbands or family heads and face more delays. Dianatinasab et al. also found that, among Iranian women, employed breast cancer patients faced fewer delays (*24*).

Our research points out that unmarried women with breast cancer are detected early in comparison to married women. Married women may fear of divorce and remarriage of the husband as in our society cancer is also suspected as being a contiguous disease. So a married woman may decide not to pursue a diagnosis even if she suspects initial symptoms of breast cancer.

A majority of the Pakistani population resides in rural areas. Our study demonstrated that rural breast cancer patients have multiple delays in comparison with those from urban areas. Rural residents have no direct approach to cancer centres and also their awareness level is not good. They also have to travel long distances to approach medical facilities. Rural culture and social values also prohibit women from discussing their disease with others. Other studies from developing countries have reported women living in rural areas encountering long delays (*13,14,18*). The health care system in Pakistan is not strong enough to cater to patients at grass roots level. Cancer days are observed to increase awareness among the public but their impact is limited.

There is a requirement for continuous awareness programmes to make the population aware about their health concerns. Early detection can reduce the mortality rate and the burden on health facilities: mammography plays a vital role in screening programmes (*25*). Developing countries have limited resources and the population mostly depends on the government medical care system. In most of the developing countries infrastructure for screening and early detection of breast cancer do not exist even though early detection can decrease the burden of incurable breast cancer patients on the health care facilities. Due to the lack of a social security system, people are reluctant to accept the cost of health facilities in Pakistan; there is no breast cancer screening programme and the cost of mammography is high. An awareness of breast self-examination and making people realize that cancer is curable at the early stages may reduce delays and reduce the mortality rate.

Conclusion

The women included in this study showed delay in presentation due to lack of resources and lack of awareness about the disease. There is a strong need to create awareness about the disease among women from rural areas and there is need to develop cancer care centres in primary health care departments so that diagnosis of the disease can be made possible at early stage.

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Table 6 **Association between selected factors and total delay among breast cancer patients, Lahore, 2016–2018**

Factor	Chi square	*P*-value
Menopause status	2.731	0.098
Active employment	21.588	< 0.001
Marital status	48.917	< 0.001

Retards de diagnostic et de traitement du cancer du sein liés à de multiples facteurs au Pakistan

Résumé

Contexte : Le cancer du sein a le taux d'incidence le plus élevé parmi tous les types de cancer dans le monde. Il existe des preuves solides montrant que le retard de consultation d'un oncologue peut entraîner une diminution de la survie.

Objectifs : La présente étude explore les facteurs causant des retards de diagnostic et de traitement chez les patientes atteintes de cancer du sein admises à l'hôpital Jinnah de Lahore entre 2016 et 2018.

Méthodes : Les données de 372 patientes ont été recueillies ; elles comprenaient notamment les caractéristiques de la tumeur, les premiers symptômes, les connaissances et l'expérience en matière du cancer du sein, la première consultation chez un médecin, etc. Nous avons calculé les intervalles en matière de retard pour le patient, le médecin, le système et les intervalles totaux.

Résultats : Les cas de cancer du sein montraient un retard moyen plus important chez les femmes âgées (plus de 50 ans) que chez les femmes plus jeunes. Les femmes ayant un nodule indolore comme symptôme initial affichaient le retard le plus long avec un total médian de 280 jours (25e et 75e percentiles, 140 et 410 jours respectivement). Les symptômes initiaux étaient corrélés au retard total (p = 0,036). Les femmes éduquées montraient un retard de traitement plus court que les femmes analphabètes (p = 0,068). Le retard était significatif pour les femmes vivant en milieu rural (p = 0,007). La taille du nodule révélait une corrélation avec le retard (p = 0,039). Les patients dont le revenu du ménage est faible (< 10 000 roupies) présentaient un retard de diagnostic plus important (p = 0,027) et les femmes actives affichaient un retard plus court (p < 0,0001). Les femmes célibataires étaient diagnostiquées plus tôt que les femmes mariées (p < 0,001).

Conclusions : Les femmes tardaient à consulter un médecin en raison du manque de ressources et de sensibilisation à la maladie, de la peur de la chirurgie et de la chimiothérapie. L'utilisation de méthodes de traitement traditionnelles permet de diagnostiquer la maladie à des stades plus avancés.

تأخر تشخيص سرطان الثدي وعلاجه واقتران ذلك بعوامل متعددة في باكستان

عمران ماجد، رنا أمان الله، عبد الواحد أنور، حافظ رفيق، فايزة عمران

الخلاصة

الخلفية: يُظْهر سرطان الثدي أعلى معدل للإصابة من بين جميع أنواع السرطان في جميع أنحاء العالم. وهناك دلائل قوية على أن تأخُّر العرض على طبيب الأورَام قد يؤدي إلى تدني فرص البقاء على قيد الحياة.

الأهداف: هدفت هذه الدراسة إلى اكتشاف العوامل التي تسبب تأخُّر التشخيص والعلاج في صفوف مريضات سرطان الثدي المقيدات في مستشفى جنة في لاهور في الفترة من 2016 وحتى 2018.

طرق البحث: جُمعت بيانات من 372 مريضة، شملت خصائص الورم، والأعراض الأولية، والمعرفة بسرطان الثدي والخبرة في التعامل معه، وأول زيارة للطبيب، وغير ذلك. كما قمنا بحساب إجمالي فترات التأخر بالنسبة للمريض، والطبيب، والعلاج، والنظام بأكمله.

النتائج: أظهرت حالات سرطان الثدي ارتفاعاً في متوسط التأخير في صفوف المريضات الأكبر سناً (أكثر من 50 عاماً) مقارنة بالنساء الأصغر سناً. أما النساء اللاتي يعانين من كُتَل غير مؤلمة تُعتبر العَرَض الأول للمرض، فقد أظهرن أطول مدة تأخير مع متوسط تأخير إجمالي بلغ 280 يوماً (25 و75 شريحة مئوية و140 و410 يوماً على التوالي). وكان هناك ارتباط بين الأعراض الأولية وإجمالي فترة التأخير (P =0.036). وأظهرت النساء المتعلمات تأخراً أقل في الحصول على العلاج مقارنة بالنساء الأميات (P =0.068). وأظهرت المقيمات في الريف تأخراً كبيراً (P =0.007). وأظهر حجم كتلة الورم ارتباطاً بالتأخير (P =0.039). أما المريضات من ذوات الدخل الأسري المنخفض (أقل من 10000 روبية) فكان التأخير لديهن أكبر بالنسبة للتشخيص (P =0.027) كما أظهرت النساء اللاتي يعملن بنشاط تأخيراً أقل (P <0.0001). وشُخِّصت النساء غير المتزوجات في وقت أبكر من المتزوجات (P <0.0001).

الاستنتاجات: أظهرت النساء تأخراً في العرض على الأطباء بسبب نقص الموارد وقلة الوعي بالمرض. وكان السبب في تأخرهن عن زيارة الطبيب هو الخوف من الجراحة والمعالجة الكيميائية. ويؤدي استخدام طرق العلاج التقليدية إلى تشخيص المرض في مراحل أكثر تقدماً.

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