Original Article

Breast Self-Examination Knowledge and Practice Among Newly Diagnosed Patients of Carcinoma Breast

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Abstract

Objective: The purpose of this study was to study the association of breast self-examination knowledge and practice with socio-demographic characteristics and stage at presentation in newly diagnosed patients of carcinoma breast.

Methodology: This cross-sectional descriptive study was carried out at Outpatient department of General surgery in Pakistan Institute of Medical Sciences, Islamabad from 01-01-16 to 31-12-16. One hundred ninety-one patients consenting to participate in the study were included. A structured questionnaire was used to collect the data, along with socio-demographic characteristics which was analyzed using IBM SPSS 24. Descriptive statistics and Chi-square tests were performed to correlate demographic variables, knowledge and regular practice of BSE.

Results: Mean age of the study population was 50.46 (+ 11.74) with a range from 23 to 77 years. In our study, significant relationships ($p<0.05$) were found between knowledge and practice of BSE with age, marital status, education level, living area and socioeconomic status. A non-significant relation was found with knowledge and practice of BSE with family history and practice of BSE in housewives. We found that a patient who presented in stage I and II (n=96) had a good or fair knowledge of BSE whereas patients in stage III and IV (n=43) had poor or no knowledge about BSE. Although maximum no of patients occasionally practice BSE (n=103) but we found that patients (n=14) in Stage I and II regularly practice BSE as compared to patients (n=54) in stage III and IV who never practice BSE. Almost all the patients in stage I (n=43) had a concept about the usefulness of BSE in the early detection of breast cancer whereas all the patients presenting with stage IV (n=20) had no concept about BSE.

Conclusion: The results of our study has reinforced the role of knowledge and education in the practice of breast self-examination. There is a need for health education programs about breast cancer and its early detection to positively impact the disease burden in our population.

Keywords: Carcinoma Breast, Breast Self-Examination (BSE)

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Introduction

Carcinoma Breast (CB) is a major cause of morbidity and mortality all over the world. It constitutes around 18 % of all female cancer with a reported annual worldwide incidence of over a million new cases.[1] Incidence of breast cancer in Pakistan is higher as compared to that in the neighboring countries, with an approximately one in nine women afflicted. This is the highest incidence rates in Asia.[3] Moreover, Pakistani women are likely to be diagnosed at an early age and advanced stage.[2, 3]

Breast cancer can be cured with limited resources if detected early whereas the advanced stage cancer demands extensive resources in addition to poor outcomes. Simple breast examination can detect around 60 % of cases.[4] Early detection as well as an early-stage diagnosis has been associated with increasing the five-year survival amongst the patients of breast cancer. [5] The definition of Breast Cancer Awareness includes the knowledge about breast health and breast cancer as well as about screening practices.[6] The goals of early detection of breast cancer can be helped by routine Breast Self-Examination (BSE), Clinical Breast Examination (CBE), and screening through Mammography.[7] Women should be educated as well as motivated to regularly examine their breasts to minimize the mortality associated with breast cancer. [8] American cancer society guidelines encourage women to do BSE from early twenties so as to get a feel of their normal breasts and develop the ability to detect any abnormality in their breasts. This practice ensures that a woman seeks medical help in case of finding a lump or abnormality in her breast and resultant earlier stage at diagnosis. BSE is a valuable primary means of educating women in breast health.[9]

Breast Health Global Initiative guidelines developed for low and middle-income economies advocate breast self-awareness, CBE and adapted mammographic screening for early breast cancer detection which can lead to 95 % survival rate.[10] Studies conducted around the world have demonstrated a positive effect of educating women regarding breast cancer knowledge and role of early detection. [11] Six modifying factors that are reported to affect health beliefs include age, gender, ethnicity, personality, socioeconomic status, and specific knowledge related to the issue. [12] There are no studies in our country to examine the knowledge about BSE, practicing habits as well as concepts about role of BSE in the detection of breast cancer. We undertook this research to study the association of breast self-examination knowledge and practice with socio-demographic characteristics and stage at presentation in newly diagnosed patients with carcinoma breast in our setup. This is a unique study as it specifically looks into the practices of diagnosed breast cancer patients.

Methodology

This cross-sectional descriptive study was undertaken at the Surgical Outpatient Department of General Surgery, Pakistan Institute of Medical Sciences, Islamabad. One hundred ninety-one female patients consenting to participate in the study were included from a period of 01-01-16 to 31-12-16. All participants had a confirmed histopathological diagnosis of carcinoma breast before inclusion in the study. The data was collected on a self-administered questionnaire. No personal identifying information was included to ensure confidentiality of data. The first part of the questionnaire included data like age, marital status, education level, family history, occupation, living area, socioeconomic status (SES) and stage at diagnosis. The second part included questions about knowledge of BSE, BSE practice habits and concept about the usefulness of BSE in early detection of breast cancer. Knowledge of BSE was graded into good, fair, poor and I don't know. BSE practice habits were graded into regular, occasional and never. The concept about usefulness in early detection was marked as yes or no concept. The data was recorded and analyzed on International Business Machines Statistical Package for Social Science (SPSS) 24. The simple descriptive analysis was done for characteristics of participants like age, age group, marital status, educational level, family history, occupation, living area, socioeconomic status and stage at diagnosis. Chi-square cross-tabulation was used to assess/uncover the correlation between the BSE knowledge, practice habits and concept about usefulness with the socio-economic characteristics and stage at diagnosis. The level of statistical significance was set at probability $P \leq 0.05$.

Results

One hundred completed questionnaires were analyzed. Mean age of the study population was 50.46 (+ 11.74)

with a range from 23 to 77 years. Table no. Igives the details of socio-demographic characteristics like age group, marital status, education level, family history, occupation, living area, socioeconomic status and stage at diagnosis.

Table I: Socio-Demographic Characteristics of Participants (n=191)		
Characteristics	**N**	**%**
Age		
21-30	19	9.9
31-40	34	17.8
41-50	45	23.6
51-60	51	26.7
Above 60	42	22.0
Marital Status		
Single	44	23.0
Married	97	50.8
Widowed	38	19.9
Divorced	12	6.3
Education Level		
Illiterate	35	18.3
Primary	42	22.0
Matriculate	58	30.4
Bachelors	45	23.6
Masters	11	5.8
Family History		
Yes	12	6.3
No	179	93.7
Occupation		
Housewife	151	79.1
Working	33	17.3
Student	2	1.0
Retired	5	2.6
Living Area		
Urban	112	58.6
Rural	79	41.4
Socioeconomic Status		
Low	97	50.8
Middle	84	44.0
High	10	5.2
Total	**191**	**100**

Table II explains the answers to three questions that were asked in relation to the knowledge and practice of BSE in our patients. 34.6 % had good knowledge, 53.9 % occasionally practice BSE while 66.5 % had a concept about the usefulness of BSE in early detection of breast cancer.

Table II: Knowledge and Practice of BSE		
QUESTIONS	**N**	**%**
How is your general knowledge about BSE?		
Good	66	34.6
Fair	61	31.9
Poor	46	24.1
I don't Know	18	9.4
How often do you practice BSE?		
Regularly	15	7.9
Occasionally	103	53.9
Never	73	38.2
Do you think BSE is useful in early detection Of BSE?		
Yes	127	66.5
No	64	33.5
Total	**191**	**100.0**

Figure 1 gives the details of Stage at diagnosis. Maximum no. of patients (n=74) presented in second stage of disease followed by (n=54) in stage 3, (n=43) in stage 1 and (n=20) in stage 4.

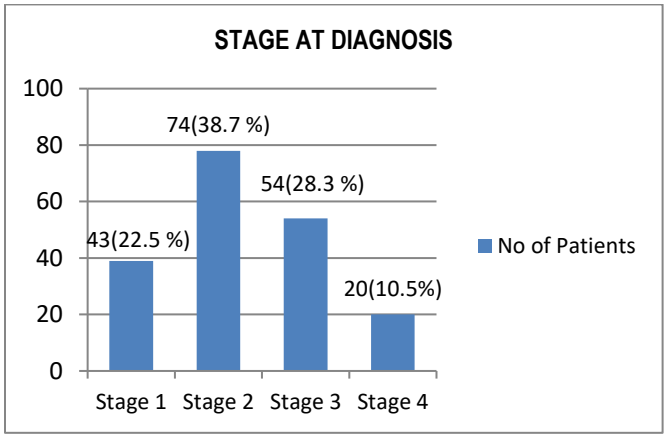

Figure no 1. Stage at Diagnosis

Table III outlines the knowledge, practice and concepts about BSE according to the age group, marital status, educational level, family history, occupation, living area, socioeconomic status and stage at diagnosis. Age groups from 21-40 are associated with good and fair knowledge whereas age groups from 51-60 and greater than 60 have more number of patients with poor knowledge. Practicing frequency is occasional in most of the age groups but (n=12) patients reported practicing BSE regularly in 51-60 years age group which is significant. Two third of the patients (n=127) reported that they think BSE is useful in early detection of breast cancer whereas (n=38) patients in greater than 60 years age group had no idea about the role of BSE in early detection of breast cancer which is significant p= 0.00. All the variables were found significant ($p \leq 0.05$).

Table III: Socio-Demographic Characteristics, Stage at Diagnosis And BSE									
	General Knowledge				Practicing Frequency			Usefulness in Early Detection	
Age Group	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
21-30	11	8	0	0	3	16	0	19	0
31-40	19	10	5	0	0	29	5	29	5
41-50	16	11	9	9	0	26	19	35	10
51-60	11	28	12	0	12	30	9	40	11
>60	9	4	20	9	0	2	40	4	38
p-value	0.00				.00			.00	
Marital Status	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Single	30	14	0	0	2	32	10	43	1
Married	21	32	35	9	7	59	31	62	35
Widowed	7	11	11	9	0	9	29	10	28
Divorced	8	4	0	0	6	3	3	12	0
p-value	0.00				0.00			0.00	
Education Level	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Illiterate	7	10	11	7	0	9	26	9	26
primary	10	12	18	2	1	10	31	21	21
Matriculate	16	25	16	1	3	40	15	42	16
Bachelors	28	8	1	8	2	42	1	44	1
Masters	5	6	0	0	9	2	0	11	0
p-value	0.00				0.00			0.00	
Family History	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Yes	3	4	3	2	2	7	3	8	4
No	63	57	43	16	13	96	70	119	60
p-value	0.78				0.38			0.98	
Occupation	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Housewife	51	47	39	14	11	76	64	95	56
Working	13	13	3	4	4	24	5	30	3
Student	1	0	1	0	0	2	0	1	1
Retired	1	1	3	0	0	1	4	1	4
p-value	0.385				0.029			0.002	
Living Area	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Urban	49	34	22	7	13	66	33	86	26
Rural	17	27	24	11	2	37	40	41	38
p-value	0.008				0.002			0.00	
SES	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Low	21	30	34	12	2	34	61	46	51
Middle	38	28	12	6	11	62	11	71	13
High	7	3	0	0	2	7	1	10	0
p-value	0.01				0.00			0.00	
Stage at Diagnosis	**Good**	**Fair**	**Poor**	**I don't Know**	**Regular**	**Occasional**	**Never**	**Yes**	**No**
Stage I	21	17	1	4	12	31	0	43	0
Stage II	31	27	11	5	2	53	19	62	12
Stage III	6	15	24	9	1	19	34	22	32
Stage IV	8	2	10	0	0	0	20	0	20
Stage I	21	17	1	4	12	31	0	43	0
p-value	0.00				0.00			0.00	
Total	**66**	**61**	**46**	**18**	**15**	**103**	**73**	**127**	**62**

All the single patients (n=54) and divorced (n=12) had a good or fair knowledge of the BSE as compared to the married and widowed women in whom (n=64) patients had poor or no knowledge of BSE. Most of the single (n=32) and married women (n=59) practice BSE occasionally, half of the divorced women (n=6) practice regularly and maximum proportion of widowed women (n=29) never practiced BSE. Almost all (n=43) single patients had a concept about the usefulness of BSE whereas a significant number of married (n=35) and divorced (n=28) women had no concept about the usefulness of BSE in early detection of breast cancer. All the variables were found significant ($p \leq 0.05$).

The higher educational level is associated with better knowledge. Bachelors and master's degree holders when combined (n=47) had good or fair knowledge as compared to (n=63) in the illiterate, primary and matriculate categories who had poor or no knowledge about BSE. Most of the masters (n=9) regularly practice BSE, most of the patients irrespective of education level (n=103) practice BSE occasionally, while almost all (n=72) patients who never practice BSE are from illiterate, primary and matriculate category. Maximum patients (n=97) who believed in the usefulness of BSE were matriculated, bachelors and masters whereas (n= 47) who had no concept were either illiterate or primary pass. All the variables were found significant ($p \leq 0.05$).

Knowledge has no significant relationship (p=0.78) with family history, the practice of BSE (p=0.38) or concept about the usefulness (p=0.98) according to findings to our study. Housewives (n=53) had no knowledge or poor knowledge about BSE as compared to good or fair knowledge in working women (n=26) but the association with occupation was non-significant (p=0.38). A significant relationship was found (p=0.29) with occupation as (n=64) housewives never practice BSE. Most of the working women (n=30) had a concept about the usefulness of BSE in early detection of breast cancer.

Patients with good knowledge were living in urban areas (n=49) as compared to (n=17) who were living in rural areas. Patients of urban areas (n=13) were found regularly practicing BSE as compared to rural areas (n=2). Residents of urban areas had a better concept of BSE (n=86) as compared to rural patients (n= 41). A significant number of patients from low socioeconomic class had poor or no knowledge (n=46) as compared to (n=76) who had good or fair knowledge were from the middle of high SES. An overwhelming (n=61) patients from lower SES never practiced BSE. Middle and High SES (n=71) is associated with the better concept about usefulness in early detection of BSE. All the variables were found significant ($p \leq 0.05$).

We found that patients who presented in stage I and II (n=96) had a good or fair knowledge of BSE whereas patients in stage III and IV (n=43) had poor or no knowledge about BSE. Although maximum no of patients occasionally practices BSE (n=103) but we found that patients (n=14) in Stage I and II regularly practice BSE as compared to patients (n=54) in stage III and IV who never practice BSE. Almost all the patients in stage I (n=43) had a concept about the usefulness of BSE in the early detection of breast cancer whereas all the patients presenting with stage IV (n=20) had no concept about BSE. All the variables were found significant ($p \leq 0.05$).

Discussion

Carcinoma Breast is the leading cause of cancer and cancer-related mortality amongst women all over the world with the more reported incidence in the developing world.[13, 14] Literature is full of evidence to support the practice of regular BSE to positively influence treatment, prognosis, and survival.[15] BSE is a suitable mode of early detection in resource-deprived settings where routine mammographic facilities are not available. We have limited data in our country as regards to BSE practices in our population. This study is exceptional as it looks into the BSE practices of diagnosed breast cancer patients.

Other studies have validated findings of our study and have brought to notice poor practice of BSE, lack of knowledge regarding aspects of breast cancer and screening practices. Knowledge and awareness regarding the use of BSE for early detection of breast cancer in a neighboring Indian study was found non-existent.[11] A local knowledge and practice study conducted on the antenatal attendees in an obstetrics clinic explained that 88 % of them don't know about BSE while only 12 % knew about it. The level of awareness among aged 15-29 years was highest and lowest among those more than 30 years.[16] In an Iranian study on women with no history of Breast diseases, 64.9% of respondents had no earlier knowledge about BSE.[17]A South African study looking into awareness of newly diagnosed patients with breast diseases demonstrated regular BSE practice among only 23 % of respondents.[18]A study at Jazan, Saudi Arabia found an inverse relationship between knowledge and age of the women which is statistically significant. Increasing age is associated with less

awareness of breast cancer and how to perform BSE. Among women, only 38.6% practiced BSE while 61.4% has never practiced BSE. Only 8.6 % has confirmed performing it regularly.[19] A study by Abdul Hadi also confirmed higher awareness among younger women as compared to those over 30.[8] A study conducted on Chinese immigrant women in the US showed that 80.9% had heard about BSE, still only 53.9% perform it. Higher income and younger age are factors associated with BSE practice.[20]

The Higher educational level is associated with better knowledge in our study. In a study conducted at Rawalpindi on women lack of knowledge was the main reason among 46.1 % (n=277) out of 600 women not practicing BSE, 22 % (n=132) had no breast complaints whereas 21.8 % (n=131) thought there was no need for BSE. In total 28.3 % had poor practices regarding BSE.[21] Another local study showed that 87.9% (n=1041) never did BSE, participants had poor knowledge about breast cancer and its screening and BSE practices were very poor.[22] A study conducted at a tertiary level hospital in Lahore showed that 36.9 % of the participants regularly observe BSE practice but again lack of knowledge was quoted as the reason for not practicing BSE.[23] Another study conducted on the antenatal attendees showed that participants with secondary education were more knowledgeable than those with primary education.[16] When we look at studies from around the region we again find the limited practice of BSE which is comparable to that of our study. An Iranian study reported that good knowledge of breast cancer increases from 0.9 % to 33.3 % from illiterate to diploma level participants.[24] In university students-based study from Saudi Arabia almost all respondents 98.9 % knew about breast cancer and BSE (91.6 %). Only 32.6 % carried out BSE. 82.1 % had adequate knowledge about BSE.[25] In another Saudi medical vs nonmedical-university based study, 28.9% of the participants practice monthly BSE. 28.4% of the medical students while 30.1% of the non-medical students practice BSE regularly.[26] Another study from Ajman showed only 22.7% ever practiced it, 3.3% were practicing monthly, while 77.3% were not practicing BSE. 60 % reported lack of knowledge about BSE as the cause of not doing it.[27] A Sri Lankan study observed, lower level of education to be associated with the least informed patients.[28] A cross-sectional study from Nigeria has pointed that women who are highly educated tend to practice BSE 3.6 times more likely.[29] Women in a Turkish study explained that only 30.3 % knew about BSE while only 19.0 % was performing it Monthly. The ratios of knowledge and performing BSE were both significantly correlated with education level and socioeconomic status.[30]

Our study reported 6.28 % while another local study reported 13.4% having a family history of breast cancer.[21] Other studies have found family history being associated with earlier stage at diagnosis contrary to our study.[31] Knowledge was not found to be significantly associated with occupation but working women were more inclined to do BSE as compared to housewives in our study. A study on the practices of Jordanian Nurses illustrates that 55.4 % practice BSE. Only 19.4% reported doing it regularly while 80.6 % perform it in an irregular manner.[32] Women of urban area according to our study had better knowledge and practice habits as compared to those from rural areas. Higher socioeconomic status also resulted in better knowledge and practice habits. An Indian study proved that women do not realize the importance of BSE and doing it regularly due to lack of knowledge and poor socioeconomic status. Only 11 % of women knew about BSE and even they don't do it regularly.[11] In a study conducted in Malaysia, age, education level, and lower perceived socioeconomic class were all indicators of poor knowledge of breast cancer and infrequent attendance of screening programs as well as decreased frequency of performing BSE.[33] A study conducted on Chinese immigrant women in the US higher income is associated with better BSE practice.[24]

Almost all our patients in stage I (n=43) had a concept about usefulness of BSE in the early detection of breast cancer whereas all the patients presenting with stage IV (n=20) had no concept about BSE. In another other local study among healthcare professionals of a leading tertiary care hospital 92 % of female participants agreed on the usefulness of BSE in early detection of Breast cancer while only 78% recognized that it should be done every month. Self-practice of BSE was again limited with only one third of them reported doing it.[2]A study looking into BSE and stage at diagnosis showed that in women who rarely practice breast self-examination, the average of largest tumor diameter and frequency of tumors who are greater than 4 cm or bigger were considerably greater ($P \leq 0.01$). Despite controlling a wide variety of variables, the connection between periodic practice of BSE and discovery of breast cancer before nodal involvement was found. There was one third reduction in the probability of disease presenting with nodal disease when BSE was done regularly.[34]

This study has few limitations like the bias of convenience sampling can be reduced by a larger sample size. We do not have information about women who refused to participate in the study or who were not available at the time of study.

Conclusion

The results of our study has reinforced the role of knowledge and education in the practice of breast self-examination. There is a need for health education programs about breast cancer and its early detection to positively impact the disease burden in our population. Breast Self-examination can help to detect breast cancer at an earlier stage thus decreasing both mortality and morbidity.

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