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Original Article

Breast Cancer Screening Practices Amongst Female Students In Pakistan

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ABSTRACT

Cancer is currently responsible for around 6 million deaths worldwide. Cancer-related deaths are predicted to rise to 74% in the next several years which is alarming for the developing countries. Breast cancer is one of the most common cancers in women and is also the leading cause mortality. **Objective:** The purpose of this study was to determine the practices opted by Pakistani women about breast self and clinical Examination and screening modalities. **Methods:** Total 453 selected female University students using the "Epitool" online sample calculation website with a 95% confidence interval and a 5% margin of error were selected. All girls between the age of 18-55 years who were currently enrolled in one of the study programs and could complete the English questionnaire were included in the study. The Breast Cancer Investigation Questionnaire (BCIQ) was used in study. SPSS version 25.0 was used to analyze the data. **Results:** The respondents' mean age was 22.87± 4.67 years. The prevalence of knowledge of breast cancer screening techniques was high 341 (75.3%), 245(53.3%) and 273 (60%), respectively, for breast self-examination, clinical breast examination, and mammography. However, only 345 (75.1%), 303 (36.9%), and 255 (56.2%) knew BSE, CBE, and mammography are helpful in breast cancer diagnosis respectively. **Conclusion:** Even though many females were aware of breast cancer and self-examination, the number of women who do BSE was alarmingly low.

INTRODUCTION

At present, cancer is responsible for roughly 6 million deaths globally, or about 12% of all fatalities. The fact that cancer-related fatalities are expected to climb to 75% in the coming years, up from 60% currently, is concerning for the developing world. Breast cancer is one of the most prevalent types of cancer, and it is also the main cause of cancer deaths among women, therefore it must be treated thoroughly. Breast cancer claims the lives of around 375,000 people each year, with up to 1 million new cases being diagnosed each year. Breast cancer is more common in women over the age of 60. Despite the efficacy of mammography and several advertising of screening programs, a substantial proportion of women who are eligible do not practice routine breast cancer screening [1]. In 2006, the breast health global initiative (BHGI) was found with the goal of increasing breast cancer awareness and breast self-examination (BSE) in poor nations with limited resources. It has helped to raise breast cancer awareness in several poor nations, including Pakistan [2]. Pakistan continues to have the highest breast cancer incidence rate, with 1 out of every 9 women in Pakistan getting breast cancer at some point in their lives [3]. Inherited genetic mutation, along with hyperplasia and a personal or family history of breast cancer, is one of the primary variables that raises the risk of breast cancer in women [4]. Obesity, menopause, and oral contraceptives, hormonal therapy

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after menopause or radiation exposure, first childbirth beyond the age of 35, and excessive alcohol use are some of the additional risk factors [5, 6]. Regular physical activity, a healthy body weight, and breastfeeding are only a few of these factors that can help to lower the chance of breast cancer [7, 8]. Because breast cancer is a progressive illness, early diagnosis can assist enhance the survival rate. Mammography, Breast self-examination (BSE), and clinical breast examination (CBE) are some of the screening procedures utilized [9]. However, because of issues such as limited resources and low literacy, mammography is not widely available in nations such as Pakistan [10]. Physical activity is being utilized as a supplement during chemotherapy and radiation to alleviate illness and therapy-related issues [11]. Although the influence of physical exercise on the immune system of healthy people has been examined, the effect of physical activity on the immune system of cancer patients has yet to be investigated [12]. Some studies have shown that exercising on regular basis can have a positive impact on the body's immune response [13, 14]. Environmental and lifestyle variables, including alcohol and tobacco use, physical activity, and a high-fat diet, can contribute to the development of breast cancer, and that removing these factors (primary prevention) can help to reduce morbidity and death. The diagnostic methods (secondary prevention) such as mammography, BSE, MRI, and ultrasonography, are available and are considerably more successful in the early identification of cancers or abnormalities that predispose to tumors [15]. Because breast cancer is such a complex illness, genetic and environmental factors have a role. The cause for various cancers' hostile behavior is breast cancer stem cells (BCSCs), which are also one of the primary therapeutic difficulties [16]. Prior to the advent of immunotherapy and targeted medicines, breast cancer treatment was generally limited to surgical procedures and radical mastectomies [17]. Metastatic breast cancer (MBC) is also known as secondary breast cancer and arises when cells from a primary breast tumor spread from the breast to other regions of the body via the lymphatic system or circulation [18]. Over the last few years, the mortality rate of breast cancer has decreased while the occurrence rate has increased [19]. Breast cancer can occur at any time, and it is highly probable that the entire family will be impacted. For a patient with early diagnosis of breast cancer and subsequent lifestyle changes are critical [20].

The goal of this study was to observe the percentage of females in Pakistan who are aware of the initial screening procedures for the early diagnosis of the breast cancer and to analyze the major screening practices in regard to self-breast examination and clinical breast examinations.

METHODS

Female students from private sector institutions were invited to participate in this descriptive cross-sectional research. A total of 453 female University students using the "Epitool" online sample calculation website were selected [21] with a simple non-probability selection approach. There was a 95% confidence interval and a 5% margin of error. The sample ranged in age from 18 to 55 years old and included undergraduate, master's, and doctorate students. Before being included in the study, each participant signed an informed consent form. The Ethical Review committee deemed that no ethical approval was required for the study; subsequently the entire study was conducted in accordance with the declaration Helsinki [22]. The study included all females who were presently enrolled in one of the study programs and could complete the questionnaire in English. The exclusion criteria prohibited any male students from accessing the response sheet, as well as female students who could not read English questions, because there was no Urdu translation and validation research for the questionnaire used in the study. The Breast Cancer Investigation Questionnaire (BCIQ), which was employed in the research; divided into five distinct parts. Section A is about demographics, Section B is about breast cancer awareness, Section C is about breast self-examination (BSE), Section D is about clinical breast examination (CBE), and Section E is about mammography utilization. The questionnaire had a total of 38 questions, which were then utilized to analyze the results [23]. The information was gathered utilizing a pre-tested, structured questionnaire. Data on sociodemographic, breast cancer awareness, knowledge, and practice of Breast Self-Examination (BSE), Clinical Breast Examination (CBE), and mammography were collected. After the questionnaires were selected for completeness and data extraction, the data was input and analyzed using Statistical Package for Social Sciences (SPSS) version 25.0. The level of statistical significance was established at 95% confidence interval for cross tabulating the variables.

RESULTS

A total of 453 people completed the BCIQ questionnaire, used in the previous literature [23]. When questioned about their marital status, 378 (83.3%) of the study's participants said they were single or had never been married before. As a result, the majority of the study's participants were single, the remaining participants were married 72 (15.9%) and widowed 3 (0.8%). The participants' greatest level of education was tertiary school or graduation, with 283 (62.5%) having completed it, 73 (16.1%) having completed senior secondary schools, 57 (12.6%)

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completed junior secondary and 25(5.5%) of the females of the sample had completed primary school. Students 235 (51.9%), doctors 132(29.1%), and office employees 42(9.3%) made up the majority of the sample, others included pharmacists 10 (2.2%), cleaning staff 19(4.2%) and laboratory staff workers 15 (3.3%). Breast cancer knowledge was present in the majority of the sample, with 439 (96.7 %) individuals stating that they had heard about breast cancer previously while only 14 (3.3%) females were unaware of the breast cancer. Media 229 (50.6 %), books and other reading material 144 (31.8%) were the most prevalent sources of breast cancer information among the research participants. Other sources included hospitals 8(1.8%) medical lectures 13 (2.9%) medical conferences or seminars 29 (6.4%), relatives and friends 20 (6.6%). 162 (35.9%) out of 453 total participants had relatives with breast cancer. 7 (4.3%) participants' mothers, 91 (56.1%) aunts, 4 (2.5%) sisters, 9 (5.6%) cousins had been diagnosed with breast cancer while 51 (31.5%) had other family members with breast cancer. The majority of the participants 341(75.1%) had heard of breast self-examination, and the same number of them said they thought BSE was an essential and effective technique for early breast cancer diagnosis. Although there is a lack of knowledge about breast self-examination among the participants. Only half of the participants 241(53.2%) knew how to perform a BSE, and 119 (26.3%) had no notion, as shown in Table 1.

Questions Asked	n (%)
Ever heard of BSE (n=453)	
Yes	341 (75.3)
No	112 (24.7)
Is BSE a useful tool for early detection of Breast cancer? (n=453)	
Yes	340 (75.1)
No	113 (24.9
Have you been taught how to do BSE? (n=453)	
Yes	241 (53.2)
No	212 (46.8)
If yes, who taught you? (n=241)	
Parents	16 (6.6)
Teacher	25 (10.4)
Doctor	41 (17.0)
Nurse	3 (1.2)
Friend	16 (6.6)
Other	140 (58.2)
Parents	16 (6.6)
At what age should BSE be started? (n=453)	
From birth	10 (2.2)
From puberty	128 (28.3)
From 30 years	27 (6)
From 20 years	88 (19.4)
After menopause	20 (4.4)
No idea	180 (39.7)
How often should BSE be done? (n=453)	
Daily	23 (5.1)
Weekly	98 (21.6)
Monthly	132 (29.1)
Yearly	38 (8.4)
No idea	162 (35.8)
What is the best time to do BSE? (n=453)	
During menstrual flow	64 (14.1)
A week after period	83 (18.3)
No idea	296 (65.2)
BSE should be done by (n=453)	
Doctor	97 (21.4)
Trained nurse	26 (5.7)
The individual	275 (60.7)
Other	55 (12.1)
BSE is done by (n=453)	
Inspecting the breast in the mirror	324 (71.5)
Feeling the breast with the hand	3 (0.7)
Feeling the armpit with the hand	2 (0.4)
Doing ultrasound of the breast	2 (0.4)
Mammography	3 (0.7)
No idea	119 (26.3)

Table 1: Respondents' knowledge of breast self-examination

The sample had an excellent understanding of breast self-examination and practiced it. 329 (72.6%) of the participants were aware that if their BSE was abnormal, they should consult a doctor. However, just 277 (61.1%) of the respondents did BSE, with 36.1% doing it only sometimes and 53 (19.1%) doing it regularly. Those who did not practice BSE, 176 (38.9%) claimed that it was either not in their family's DNA (22.7%) or that it was unnecessary (26.7 percent). Table 2 lists all the participants' reasons in detail.

Questions Asked	n (%)
If you discover any abnormality during BSE, what will you do? (n=453)	
Do some lab tests	49 (10.8)
Pray over it	13 (2.9)
See a doctor	329 (72.6)
Do Nothing	62 (13.7)
Benefits of BSE (n=453)	
Familiar with breast texture	24 (5.3)
Early detection of breast cancer	204 (45.0)
Detection of abnormal changes	198 (43.7)
A good breast exercise	27 (6.0)
Do you practice BSE? (n=453)	
Yes	277 (61.1)
No	176 (38.9)
If yes, how often? (n=277)	
Weekly	53 (19.1)
Monthly	50 (18.1)
Occasionally	74 (26.7)
Rarely	100 (36.1)
If no, why not? (n=176)	
Don't know how to do it	23 (13.1)
Breast cancer not in my family	40 (22.7)
Don't remember	13 (7.4)
Don't think it is necessary	47 (26.7)
Don't have the time	16 (9.1)
Not heard about It	21 (11.9)
No reason	16 (9.1)
If you have been practicing BSE, have you ever	
discovered any abnormality in your breast? (n=277)	
Yes	77 (27.8)
No	200 (72.2)

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If yes, what did you do? (n=77)	
Prayed over it	22 (28.6)
Saw a doctor	55 (71.4)
Do you think BSE is a good practice? (n=453)	
Yes	400 (88.3)
No	53 (11.7)

Table 2: Respondents' practice of breast self-examination

Table 3 shows the participants' comprehensive and detailed responses to their knowledge of clinical breast examination. Only 238 (52.2%) of the participants had heard of clinical breast examination (CBE), indicating that almost half of the sample was unaware of CBE and had no knowledge about it. When asked about why they haven't undergone mammography procedure ever? there were multiple answers which were included into one option "not enough knowledge" 121 (26.7). These options included not old enough, financial constraints, didn't find need to do mammography, unavailability mammography, not yet compulsory, never felt the need, no symptoms are present, never felt of getting one, didn't need it and didn't find any reason.

Questions Asked	n (%)
Ever heard of CBE? (n=453)	
Yes	245 (53.9)
No	209 (46.0)
Is CBE a useful tool for detection of breast CA? (n=453)	
Yes	303 (66.9)
No	150 (33.1)
Do not know CBE should be done by (n=453)	
Doctor	308 (68.0)
Trained nurse	74 (16.3)
The individual	48 (10.6)
No idea	23 (5.1)
CBE should be done using (n=453)	
Ultrasound	106 (23.4)
Mammography	220 (48.6)
Hand	98 (21.6)
No idea	29 (6.4)
How often should CBE be done? (n=453)	
Daily	21 (4.6)
Weekly	22 (4.9)
Monthly	74 (16.3)
Yearly	53 (11.7)
When abnormality is found on BSE	127 (28.0)
No idea	156 (34.4)
Have you heard of mammography?	
Yes	273 (60.0)
No	159 (35.0)
Is mammography a useful tool for the early detection of breast cancer?	
yes	265 (58.4)
no	43 (9.4)
Don't Know	145 (32.0)
At what age should mammography be started	
After menopause	23 (5.0)
From 20	62 (13.6)
From 40	80 (17.6)
From birth	17 (3.7)
From puberty	66 (14.5)
No idea	205 (45.2)
How often should mammography be done?	
Monthly	131 (28.9)
Yearly	192 (42.3)
Weekly	97 (21.4)
No Idea	23 (5.0)
Have you ever done a mammography?	
No	381 (84.1)
Yes	72 (15.8)
If no to question above, why not?	
Not old	233 (51.4)
Financial Issue	99 (21.8)
Not enough Knowledge (Multiple Answers)	121 (26.7)

Table 3: Respondents' knowledge and practice of CBE and mammography

DISCUSSION

Breast cancer is one of the leading causes of death worldwide [1]. It is one of those diseases that, if detected early, may be completely cured, allowing the survivor to live a happy life [9]. Lack of knowledge among young girls, resulting in undetected cases that end in terrible circumstances. The primary objective of this study was to assess female knowledge of breast cancer and, the procedures utilized for early detection or screening of breast cancer. The study found that while a large number of females do not have basic information of breast cancer, the percentage of females who conduct basic breast self-examination is alarmingly low; over half of the sample participants did not undertake self-breast exams and the majority did not know how to do so. Following the basic breast self-examination, the clinical breast examination is performed, which most of the female participants are unfamiliar with. In 2015, the authors Noreen M et al., conducted research and found that a high number of public awareness initiatives are urgently needed. Looking at their findings and current results, it is that they are in accordance with one another, and that not much has been done in the previous 6 years to promote breast cancer awareness among women [24]. Current study showed how often women self-examined their breasts, and it is discovered that just a small percentage of women did so on a weekly basis. Although the degree of awareness among medical students is good owing to their practice, Qasim, S. mentioned in their 2020 article. In their study, the number of females conducting BSE was also quite small, and they suggested that further research and public awareness campaigns be done in this area. Similarly, Ullah Z et al, Zia Ullah et al, and Arif S. et al. also indicated that there was insufficient knowledge of breast cancer among females in all types of communities. And the BSE, which is an important part of the early screening and diagnostic procedure, was only used by a small percentage of girls in their research [25]. Current research adds to the body of knowledge on breast cancer and its early screening

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measures in the Pakistani community. However, it raises serious concerns regarding the use of basic self-examination for breast cancer screening and an inadequate knowledge of clinical breast inspection.

CONCLUSION

Although a high percentage of individuals are aware of breast cancer and breast self-examination, the number of women who do BSE is dangerously low. As a result, measures should be done to promote awareness, particularly among students, in order to avert any avoidable consequences.

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