Original Article

Prevalence Of Breast Cancer And its Association with Local Beliefs of Women For Mammography In Rawalpindi Pakistan

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Abstract

Objective: To observe the prevalence of breast cancer and age at which women undergo/report for mammography. The other objective was to find out the relation between breast cancer and beliefs of women.
Study design: It was a cross-sectional study design.
Place and duration of study: The study was conducted at Ibn'e Sena Laboratory & Diagnostic Centre from May to June 2022.
Material and Methods: By adopting cross-sectional study design opinions of 170 women who were coming for mammography were interpreted through a questionnaire.
Results: About 62% of the participants had mammography because they were fearful of developing cancer.95% of them had mammography on physicians prescription while only 9.4% had mammography due to personal belief and 5.9% had mammography on advice of male partner.48.8% agreed that it is burdensome to have mammography one or two times a year.28.8% didn't realize how to perform BSE. Breast cancer was found positive in 48.8% of the participants. Positive relation between beliefs and breast cancer was found through chi-square test.
Conclusion: We concluded that women have negative beliefs about mammography which lead to the increased prevalence of breast cancer. Finance is a barrier in breast cancer detection. So more facilities are required which canovercome the financial barriers in detection. Also more awareness programs should be launched.

Keywords: Prevalence, breast cancer, local beliefs, mammography, age, women.

1. Introduction

Breast cancer is a disease that is far from fatal and is the second leading cause of death from cancer in women after lung cancer. Each year 260000 new cases of breast cancer and 40000 deaths from breast cancer are reported in United States. One in every nine women develop breast cancer in Pakistan. Symptoms vary in the patients but the common symptoms are swelling, redness around the breast or armpit, an abnormal mass, inverted nipple, and abnormal discharge of fluid. Breast cancer was found to be the most common cancer among women and one of the most crucial causes of death among them. Breast cancer among young women is found as an extraordinarily heterogeneous disorder. There are much variations found in tumor characteristics by using age race/ ethnicity.**(1)** Out of all Asian countries, Age-adjusted breast carcinoma is common in Pakistani women. Although the incidence of breast cancer (BC) was higher in developed countries, the relative rate of death due to incidence is higher in low-income countries. Contributing more than 60% of global death tolls, Globocan data from 2012, stated Pakistan has been one of the top five countries with the highest age-related breast cancer morbidity with twenty five deaths per one lakh people. Breast cancer is the leading cause of death in women due to malignancy. Early cancer detection increases the likelihood of effective treatment and reduces disease and death. As a result, the World Health Organization recommends that women should undergo Mammographic screening for breast cancer on a regular basis.**(2)** Anatomy of the breast and its tissue make imaging difficult.

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In young age breasts are more dense and are more difficult to image because of glandular tissue while in old age breast contains more fatty tissue and is easier to image. Normal breasts consists of three types of tissues; Fibrous, glandular and fatty tissue.

In a pre- menopausal women the fibrous and glandular tissues are structured into various ducts, glands and connective tissues. These are surrounded by thin fatty layer. The screen-film appearance of glandular and connective tissue is of high optical density. Postmenopausal breasts are characterized by the degeneration of fibro glandular tissue and an increase in adipose (fatty tissue).Adipose tissue appears dark on film with high optical density and requires less radiation exposure tissues.[3] Risk factors of breast cancer are age, gender, history of breast cancer, histological factors, family history, reproductive risk factors and Exogenous hormone use.

Breast cancer is staged in line with length of tumor and on the idea of unfold to lymph nodes. There are four major stages of breast cancer. Stage zero: referred to as ductal carcinoma in situ (DCIS), the cells are restrained to inner duct and now not invaded surrounding tissues. Stage 1: on the beginning of this level, the tumor is up to 2cm across and it do not affect any lymph nodes. Stage 2: The tumor is 2cm in the course of and it had started out to unfold to close by way of nodes. Stage 3: The tumor is up to 5cm across and it could spread to 3 lymph nodes. Stage 4: The cancer had unfold too far off organs, in particular the bones, liver, brain and lungs.[3]

Mammography is the most effective way of diagnosing breast cancer. It was found to be more effective in breast imaging because it uses low energy x-rays to image the breast. Early diagnosis by mammography reduces the chance of breast cancer by 90%. Conventional x-ray imaging systems were unacceptable for mammography. Mammography machine has compression device, a low ratio grid, AEC and a micro focus x-ray tube. Compression is very important in mammography. Strong compression gives a lot of advantages. A compressed breast was found to be more uniform therefore the response of the image receptor is uniform. Tissues near the chest wall were less likely to be underexposed and those near nipple were less likely to be overexposed. With compression focal spot blur could be reduced. It also reduces absorption blur and radiation scatter. All mammographic systems have in-built stiff compression device. Generally two views are taken Cranio-caudal and Medio-lateral- oblique.[4] Late presentation of breast cancer analysis in ladies was a result of sufferer and machine factors in lots of low-income countries such as Pakistan. Because of the poor knowledge and extensive literature research about health related problems, diagnosis of the condition get postponed. The scarcity of comprehensive awareness to cope with the triumphing myths and misapprehension within the society related to breast cancer. Pakistani women are unaware about the causes of breast cancer to that leads to the excessive increase in cancer patients. There is sudden need to eliminate negative socio-cultural understanding of cancer, wherein ladies trust that cancer causing cells will harm the fetus, hide breast lumps from family individuals, and seek religious advice and help. The scarcity of know-how of breast cancer, socio-economic reputation, and absence of upgraded medical facilities are major elements in preserving breast cancer prognosis. Girls perceive the breast as a secret body part and keep away them being visible to male medical doctors. Apart from Breast cancer recognition and Knowledge issues, a majority of sufferers, mainly from villages, show delayed presentation due to the fact of economic constraints or they accept as true with that treatment would be unaffordable for them.

Women have least knowledge about risk factors which is also a cause of delayed diagnosis.[5]

A national survey revealed that female students were poorly aware of breast cancer risks ,symptoms etc., The study highlighted the need for aggressive strategies regarding breast cancer awareness but to start screening programs first we need a proper data which provides information about all causes which cause late presentation of breast cancer.[6] The study conducted in turkey emphasized that women with higher education

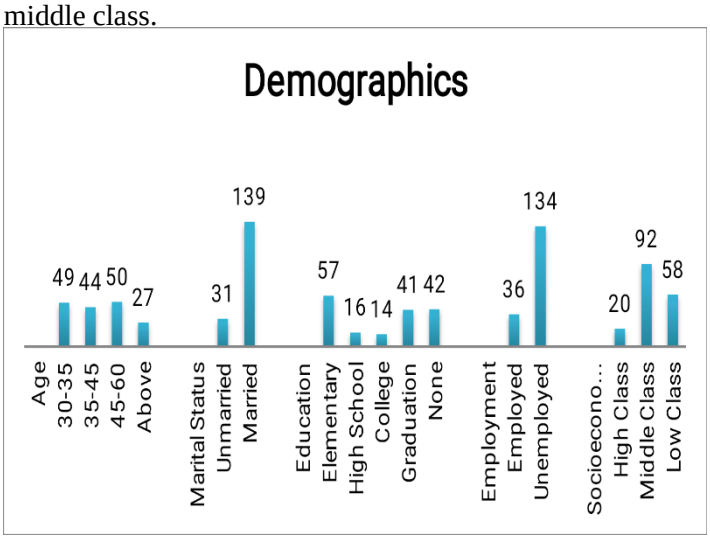
and strong economic background were more aware and less fearful of breast cancer, the study only focused on women of reproductive age but breast cancer was also reported in women after menopause.[7] A study revealed that mammography before 50 years of age reduced breast cancer mortality rate, the study estimated the effect of mammography screening at ages 40-48 years on breast cancer mortality.[8] A study conducted in 2021 divulged that breast cancer had the highest occurrence ratio amongst all forms of cancer worldwide. There was a strong evidence that postpone in presentation to an oncologist can also result in decreased survival Girls showed postpone in presentation because of loss of assets and lack of expertise about the disease. They presented past due to fear of surgical procedure and chemotherapy. The use of traditional treatment methods results in prognosis of the disorder at extra advanced degrees, the study highlighted diagnostic and treatment delays and their impact on overall breast cancer survival rate rate.[9] Malik et al disclosed link between Breast cancer awareness (BCA) and education of any degree. Compared to a family history of breast cancer and BCA, this connection was significantly stronger. Therefore, providing general education to illiterate women may lower the percentage of women who present with advanced breast cancer in low-income nations, the study concluded that basic education to uneducated women may reduce the proportion of breast cancer in India.[10] A study on healthcare workers unveil that healthcare workers even at tertiary care level had least knowledge about breast cancer, the study highlighted the need for awareness of breast cancer among healthcare community so that there would be reduction in delayed diagnosis but awareness campaigns should also be conducted for women especially in rural areas.[11] A study revealed that majority of ladies proven to have terrible understanding about breast cancer and screening techniques. Extra effort ought to be placed forth thru girls' healthcare providers to increase the awareness of breast cancer screening, the study highlighted awareness of screening methods of breast cancer among women in Saudi Arabia.[12] A study unveil that inability to diagnose asymptomatic women is the major barrier in breast cancer diagnosis, educational programs especially breast cancer awareness programs could increase breast cancer awareness, the study emphasized on barriers which lead to delayed diagnosis and increase in the ratio of breast cancer patients in Bangladesh.[13] A study disclosed insufficient information of women and the low practice of BSE, and mammography has led to inflation of the disease. Public awareness should be more desirable with the aid of all to be had way which include mass media, colleges, social gatherings, and waiting regions in number one health care center, the study marked the knowledge of women and their attitudes towards breast cancer.[14] Breast cancer, situation is frightening. As a result, we must inform and educate people about this dangerous illness.

2. Materials & Methods

Women of age 30 and above whether married or unmarried who were prescribed mammography (having breast cancer or not) were included in the study. Informed consent was obtained by consent form Ibn'e Sena Laboratory & Diagnostic Centre from May to June 2022. Patients were clearly informed about the aims and objectives of the study and their rights. If the patient agreed to participate then was asked to sign the consent form. The consent form was provided in both Urdu and English languages. If the patient was unable to read then the consent form was read loudly and verbal consent was taken. By adopting cross-sectional study design well-structured questionnaire was developed for the collection of data. The questionnaire contained information regarding demographics such as age, marital status etc. Questions regarding periodic mammographic examination, causes of not undergoing the examination, motive behind undergoing the mammogram and source of information behind motivation for mammogram, common complaints regarding breast and incidence of breast cancer were noted. The collected data was entered into a computer spread sheet for analysis in the SPSS version.21. We applied descriptive statistics to find frequencies. To find out relation between beliefs and prevalence of breast cancer we applied chi-square test was applied.

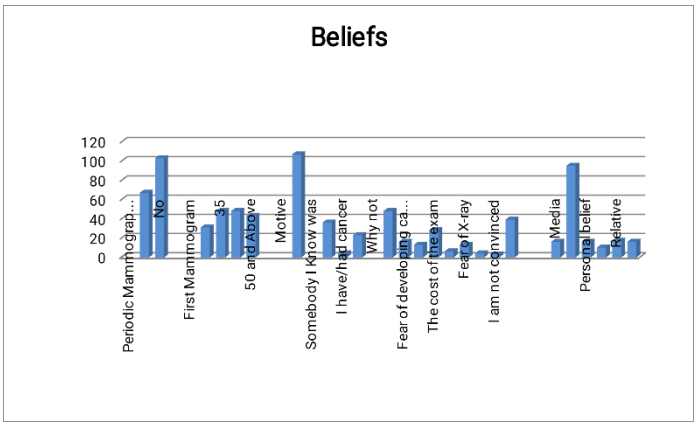
3. Results

In the current study, This bar graph shows that 82% of women underwent mammography between 30-60 years, with 81.8% being married and 54.1% from the middle class.



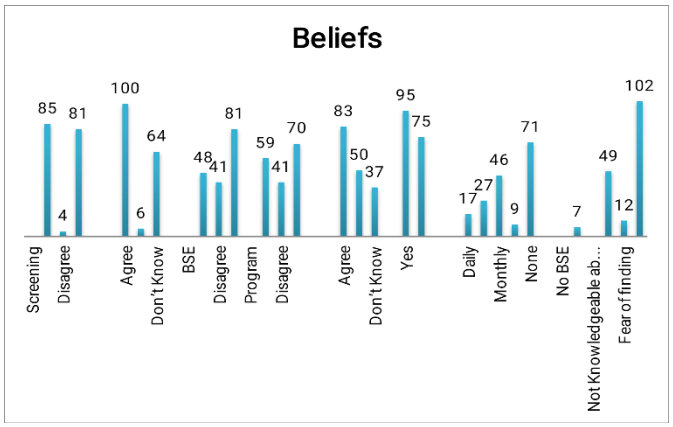
Additionally it is representing the reasons for not having mammogram and the major source of mammography awareness.

Figure 2: Presents attitude towards periodic mammogram and time of First mammogram



This below Figure 3 showed the Knowledge about BSE and financial barriers for not having the examination.

Figure 3: The bar chart shows the attitudes of women towards screening mammogram.



The below mentioned table represents Chi-square test results representing a positive association between beliefs and breast cancer (Women having negative beliefs may have breast cancer).

Table 1: Association between Beliefs and Breast Cancer

Baseline Characteristic	Value	df	P
Motive	142.706	3	0.000
Why not	108.682	8	0.000
Burden	19.847	2	0.000
Have BC	43.141	2	0.000

4. Discussion

In this study we found that 82% of women come for mammography between age range 30-60 among which 81.8% were married and 18.2% were unmarried and about 24.1% of them were educated and 54.1% belonged to middle class. About 39.4% didn't undergo periodic mammography which means they didn't understand the importance of this examination and about 56% had their first mammogram between ages 35-40. Breast cancer incidence vary by age many women above 75 years undergo screening mammograms, this study only highlighted that the incidence of breast cancer rates and the stage of diagnosis vary by age but did not highlight the most

common stage at which women report for mammography.[15]About 139 were married participants and only 31 were unmarried. Large portion of the study group didn't continue education after elementary.134 of the total population was unemployed and most of them were from middle class families. These factors have direct impact on detection and prevalence of the breast cancer. About 62% had mammogram because of the fear of developing cancer, so technologists can play a role to aware women if they have mammography at prescribed period then there is less chances of developing cancer. Females in healthcare profession could have an effective impact on the attitudes, beliefs, and practices of general public. 1.2 % mentioned that they had mammography because they knew someone who was diagnosed with cancer. 2.4% have/had cancer while 13.5% didn't mention the reason means that they want the privacy of their problem.48% of them reported that they didn't have mammography because they didn't suffer from any complaint while 28% mentioned cost of examination as the reason for not having periodic mammogram. A cost effective system should be developed, so more women would be able to undergo the examination. 9.4% mentioned that they didn't undergo mammography because they were fearful that they may be discovered with cancer.7.6% mentioned being not old as the reason.3.5% mentioned that they were too busy.7.6% mentioned that they were afraid of harmful effects of X-ray.1.8% mentioned that they were not convinced. Decisions, habits, and access to early detection and adequate care for breast cancer are all delayed by social-contextual factors at the individual, interpersonal, health system, and societal levels. A thorough strategy for enhancing breast cancer early detection must take into account provider expertise and communication, public awareness and misunderstandings, and cancer care delivery, the study gave the framework for improving delay in diagnosis of breast cancer.[16] While 55.9% of them mentioned physician as a source for knowing about mammography .General physicians need more education about breast cancer incidence and management.[17] According to this study the most prominent source of information about mammography were physicians and we also found that women should have more knowledge on importance of periodic mammography, screening mammography and breast self- examination. According to our analysis cost was a barrier for mammography.9.4% mentioned media as a source of information.9.4% came for mammography based on personal belief. 9.4% mentioned educational campaigns as source of information. 10% mentioned relative as source of information. Male partners should also have knowledge about mammography screening as only 5.9% participants mentioned husband as a source of information. Husbands' understanding of breast cancer influences other halves' attitudes and practices related to breast cancer screening strategies in Saudi Arabia. Accordingly, interventions delivered to husbands might increase breast cancer awareness and survival, the study marked the influence of husband's knowledge of breast cancer on wives attitudes and practices related to breast cancer.[18] About 50% of participants agreed with the statement that screening mammography is the most effective way for early detection of breast cancer. While 58% of participants were aware with the fact that breast cancer is the most common disease among women in Pakistan, 37.6% were unaware of the disease and 3.5% didn't agree that breast cancer is the most common disease in Pakistan. 28.2% agreed that by performing BSE there is no need for screening mammography while 24.1% disagreed and 47.6% didn't know about BSE.34.7% agreed that they should blame themselves if they didn't attend screening program and develop cancer, 24.1 disagreed and 41.2% were unaware. 48.8% agreed that undergoing mammography every year is burdensome, 29.4% disagreed and 21.8% didn't know. BSE an important factor for diagnosing any abnormality without any modality was performed by 55.9% of the participants while 44.1% didn't performed BSE.Time for performing BSE varied while a women should perform BSE monthly. Daily 10 %, Weekly 15.9 % ,Monthly 27.1%, Yearly 5.3 %.28.8% of participants who didn't perform BSE had no knowledge about how to perform BSE. Women should have more knowledge about breast cancer. Women had least knowledge about breast cancer and screening methods, the study highlighted the awareness of breast cancer, diagnosis, screening methods among women in Peshawar Pakistan.[19] Most of the women undergo mammography because of the fear of getting cancer. Half of the participants were unaware that BSE is not enough for diagnosing breast cancer. In comparison to other cities and nations as well, Females in Rawalpindi

have poor knowledge about BSE as most of them mentioned that they didn't have knowledge about performing BSE and those who perform BSE didn't know at which time it should be performed as 25.9% perform it on daily or weekly basis. Key strategies to increase awareness of screening among Korean girls is by the delivery of culturally sensitive fitness promoting and community engagement programs and introducing translated health information, the study highlighted motivators and barriers which lead to participation and negative beliefs towards screening programs among women from a Korean background.[20] As in our culture most of the women prefer female healthcare workers so for reduction in breast cancer prevalence female healthcare workers could be a strong facilitator. Consequently, it is important that the healthcare people themselves have well enough know-how and high-quality attitudes. The understanding, attitudes, and practices associated with breast cancer screening have been located to decrease than predicted. Lively steps are required to develop instructional programs for the health care staff, which would possibly empower them to spread the expertise and undoubtedly have an effect on the attitudes of female sufferers within the hospital. All these findings represent beliefs of women about mammography. The beliefs greatly affect the mammography screening among women and also cause late diagnosis. Delayed diagnosis and fewer national breast screening program.[21] We conclude on the basis of our results women having negative beliefs may have more chances of developing breast cancer and this was found statistically significant.

Conclusion:

Breast Cancer was found positive in 48.8% of the participants while more prevalent stage was stage 1. Women having negative beliefs had breast cancer. Most of them reported at the age 35-40. Women had least knowledge about breast cancer and screening methods, the study highlighted the awareness of breast cancer, diagnosis, screening methods among women in Peshawar Pakistan.[19]

Limitations and Future Directions:

This study was conducted in the Rawalpindi an area with all healthcare facilities but this study should be conducted in less privileged areas. This study highlighted awareness and beliefs of women but it should also be done on male partners. Breast Self-Examination is an important factor for breast cancer diagnosis but this study estimated beliefs as a whole, So, BSE should be studied separately.

This study only found about the beliefs of women but studies could be conducted to find out the awareness of radiographers and Imaging Technologists. We couldn't linked socioeconomic status with occurrence of breast cancer. Relationship of Educational status and prevalence of breast cancer could be studied separately in future.

We obtained data only from mammography patients but studies in future could work on non-diagnosed women. Motive behind undergoing mammography could be searched separately. In our study we found cost as a barrier in undergoing mammography. So, effect of cost on mammographic examination could be researched. We didn't work on the unavailability of health care facilities and its effect on the mammographic examination. Availability of staff a major problem in mammographic examination was not covered in this study. So, studies could be conducted on this aspect. Effect of peers and relatives should be studied separately. Psychological changes after development of breast cancer could be studied in future.

Conflicts of Interest:

We declare that we have no conflicts of interest regarding this research project. This includes financial interests, consulting arrangements, affiliations, or any involvement with organizations that could potentially bias our research**.**

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