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Breast Cancer and Self Breast Examination Awareness Amongst Pakistani Female Medical Students and Hospital Employees: Assessing Shortcomings in Health Literacy

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ABSTRACT

Objective: To assess the knowledge, attitudes, and practices related to breast cancer and breast cancer screening among female medical students, healthcare workers, and hospital employees.

Methodology: This cross-sectional study was conducted from September 1, 2021, to October 30, 2021. A questionnaire on breast cancer awareness and self-breast examination was distributed to female medical students across all five years at Fatimah Jinnah Medical University, Lahore, and to female hospital employees at Sir Ganga Ram Hospital, Lahore. A total of 404 women participated and were included in the study.

Results: Out of the respondents, 71.2% were medical students, and 26.7% were doctors. Approximately 24% reported a family history of breast cancer. Media was identified as the primary source of information on breast cancer by 79.2% of women. Only 64.9% of respondents practiced self-breast examination, with merely 23.8% performing it monthly. Furthermore, only 37.1% correctly identified all the essential steps for conducting a breast self-examination.

Conclusion: While the knowledge of breast cancer is satisfactory among healthcare workers and hospital employees, there is room for improvement in attitudes and practices related to early detection and screening. Initiatives should be undertaken by medical undergraduate curriculum coordinators to incorporate breast self-examination, clinical breast examination, and screening guidelines in both pre-clinical and clinical years of medical education. Additionally, information dissemination programs should be implemented in hospitals for all employees.

Keywords: Breast cancer; Health literacy; Health education; Breast self-examination

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Introduction

Breast cancer stands out as one of the most widespread cancers affecting women, with an alarming statistic revealing that 1 in every 8 women grapples with this condition. In South Asian countries, particularly, breast cancer emerges as a concealed epidemic due to delayed reporting and seeking of care, primarily attributed to cultural barriers and limited access to healthcare resources.[1] Countries like Bangladesh, mirroring the situation in Pakistan, confront a high incidence of breast cancer. Hindered access to healthcare results in many women remaining undiagnosed until the disease has reached an advanced stage2. A study conducted in Bangladesh has recommended the mobilization of female-centric primary healthcare physicians and an increase in outreach and awareness programs targeting women.[2]

Pakistan faces an estimated 30,000 new breast cancer cases annually. Projections indicate that the incidence of breast cancer may triple within the next five years.[3,4] A study conducted in Peshawar revealed alarming statistics: among 430 women, only 2.5% practiced self-breast examinations, 15% were aware of the lifetime risk of

developing breast cancer, and a mere 23.3% recognized warning signs associated with the disease5. Barriers such as embarrassment, limited access to healthcare facilities, and distrust in the confidentiality of medical matters were identified as contributing factors.[5]

In India, a study uncovered notable disparities between the knowledge and practices of self-breast examination among women from the community compared to healthcare professionals. Healthcare professionals exhibited higher awareness, with nearly half of them engaging in regular self-breast examinations. Conversely, both knowledge and practice were found to be low among the community and healthcare workers.[6]

Pakistan, grappling with a high incidence of breast cancer, witnesses challenges stemming from gender inequality, lower literacy rates, and disparities in access to healthcare and health education. This study was undertaken to assess the knowledge, attitudes, and practices related to breast cancer and its screening among women working in hospitals and female medical students. The rationale behind this initiative is grounded in the belief that well-informed women from these specific communities can serve as conduits for disseminating accurate information and promoting good practices in early detection and breast cancer screening. Research indicates that instructing select women in a community on Breast Self-Examination (BSE) has a positive trickle-down effect.[7] Consequently, empowering women associated with healthcare professions or education is crucial in fostering early detection of breast cancer. Baseline Knowledge, Attitudes, and Practices (KAP) studies, such as the one conducted in this instance, are imperative throughout Pakistan to identify existing gaps in knowledge and practices related to breast cancer.

Methodology

The cross-sectional study was conducted from 1st September 2021 to 30th October 2021. A questionnaire regarding breast cancer awareness and self -breast examination was circulated amongst female medical students of all 5 years at Fatimah Jinnah Medical University, Lahore and amongst female hospital employees. A total of 404 women responded and were included in the study.

The questionnaire was adopted from a previous study.[8] It included a section on sociodemographic information, knowledge of breast cancer and breast cancer prevention, knowledge and practice of breast self examination and clinical breast examination and knowledge and practice of screening mammography. The second part of our questionnaire was adopted from the Munson Healthcare Smith Family Breast Health Center Risk Assessment Questionnaire which included questions regarding family history and risk assessment for breast cancer. Besides this source of information regarding breast cancer were also assessed. Knowledge, attitude and practices regarding self-breast examination, clinical breast examination and screening mammography were assessed through the pre-designed questionnaire which was a validated questionnaire used in previous studies and currently in hospitals for similar assessments. These assessments included how often or the correct timing of these screening methods, questions regarding the correct practice and the frequency of practice were asked along with others. Data was analysed qualitatively using SPSS V25.0

All women who were either in medical school or worked in the hospital were included in the study regardless of age or education status. Women were only excluded if they did not wish to participate.

Primary end-point was to assess how informed and educated were women both medical students and hospital employees regarding breast cancer and breast cancer screening methods.

Results

A total of 404 respondents were included in the study. All women were of South-Asian descent. Mean age was 24.0 SD 1.24. 5.7% (n=23) of the participants were married and 94.3% (n=381) had never been married. The occupations of our respondents are enlisted in table I. None of our participants had ever been diagnosed with breast cancer.

Table I: Frequency of occupations of women who participated in the study.

Occupation	Frequency	Percentage
Doctor	108	26.7%
Nurse	5	1.2%
Medical Student	288	71.2%
Teaching Faculty	1	0.2%
Administrative Staff	1	0.2%
Laboratory paramedical staff	1	0.2%

Table II shows family history of breast cancer frequency for our participants. All participants had heard of breast cancer.

Women were asked to enlist sources of information regarding breast cancer from the following list and their frequency was recorded:

- Books were a source in 72.2% cases (n= 292)

- Hospital was a source in 79.2% cases (n=320)
- Conferences/Seminars were a source in 62.1% cases (n=251)
- Lectures/Tutorials were a source in 75.7% cases (n=306)
- Media was a source in 79.2% cases (n=320)
- Friends were a source in 54.9% cases (n=222)

Table II: Family history of breast cancer frequency for our participants.

Relationship with family member	Frequency	Percentage
Grandmother	20	4.8%
Aunt	43	10.5%
Mother	18	4.4%
Maternal and Paternal Grandmother	1	0.2%
Sister	15	3.7%
Total with breast cancer only	97	24%

Of our participants 99.3% (n=401) had heard of a breast self-examination. 99.0% (n=400) of participants were correctly able to identify that BSE is a useful tool for early detection.

Respondents were asked to enlist who had taught them; 34.7% (n=140) responded they had learnt it from a doctor. 1.5% (n=6) responded they had found how to perform one on the internet, 1.5% (n=6) responded they had seen it on television, 44.3% (n= 195) learnt it from a teacher.

Women were asked what age a BSE should be performed from; 7.4% (n=30) responded that they did not know, 57.2% (n=231) responded from puberty, 6.7% (n=27) responded from the age of 30 onwards and 28.7% (n=116) responded from the age of 20 onwards.

Women were asked what was the best time to do a BSE only 43.1% (n=174) correctly identified one week after period. Respondents were asked to choose from a series of maneveurs on how to perform a self-breast examination. The responses are entailed in table III.

Respondents were asked what to do if abnormality was felt during the self-examination. 97.0% (n=392) responded by see a doctor. 1.5% (n=6) said they would do laboratory tests or work up and 1.5% (n=6) said they would do nothing.

The respondents were asked whether they practice self breast examination. 64.9% (n=262) responded yes. Women were asked how often they should perform a breast self examination only 23.8% (n=96) correctly reported monthly.

Table III: Responses of participants on how to perform a breast self-examination.

How to perform a BSE	N	%
-Feeling the breast with the hand	193	47.8
-Feeling the breast and armpit with the hand	6	1.5
-Inspecting the breast in the mirror	37	9.2
-Inspecting the breast in the mirror and feeling with hand	6	1.5
-Inspecting the breast in the mirror and feeling the breast and armpit with the hand	150	37.1
Mammography	12	3.0
Total	404	100.0

Women were asked reasons they do not perform a self breast examination at all or rarely. 17.7% (n=24) answered that they were too young to perform one, 11.8% (n=16) reported it should be done by a doctor not by self, 8.89% (n=12) reported they felt they did not need one, 26.6% (n=36) reported they had no reason as to why they do not perform one, 14% (n=19) reported they were not confident in their skills to perform one or did not know how, 20.7% (n=28) responded they either forget or do not find the time.

Women were asked whether clinical breast examination may be a useful tool for detection of breast cancer? 84.4% (n=331) reported that it was likely important in detecting breast cancer. Women were asked who should perform a clinical breast examination. 95% (n=384) responded by a doctor and 1.7% (n=7) responded by a trained nurse. Women were then asked if they had heard of a mammography. 81.4% (n=329) said they had.

Respondents were asked what age mammography should commence and only 81.9% (n=331) correctly identified age 40 years and above and only 9.9% (n=40) correctly identified it should be done annually.

Of all participants 10.4% (n=42) had had a mammogram. Women were asked whether they had been recommended screening mammograms and if they didn't do it then why? 3.2% (n=13) women said there was no abnormality thus they did not do a screening mammogram and 3.2% (n=13) said they had refused one due to a financial restriction. The rest of the respondents either had had it done as recommended or had never been recommended one.

Discussion

We discovered that 24% of our participants had a family history of breast cancer, which is double the 8-12% reported in the literature.[9,10] Considering this, raising awareness about breast cancer, screening, and early

detection becomes crucial, as delays in presentation are common,[11] potentially leading to improved outcomes.

A majority of our respondents learned about breast cancer through various sources, including textbooks, lectures, tutorials, and media such as social media, television, and radio.[12] Recognizing the pivotal role of media in spreading awareness, especially in today's age, cultural appropriateness and tailoring social media campaigns for breast cancer awareness in countries like Pakistan, with a Muslim majority, are imperative.[12,13]

Most of our respondents were affiliated with the medical field and were familiar with Breast Self-Examination (BSE). Integrating BSE into the pre-clinical curriculum for female medical students has been found useful.14 A BSE may detect up to 40% of early lesions- a study in India found that teaching select women in a community contributed to a significant increase in knowledge and practice of BSE of the whole community.[15]

Our study reveals a lack of clarity among women regarding when to start BSE, with less than half correctly identifying the correct timing. Only 37.1% accurately identified all BSE steps, indicating a deficiency in comprehensive knowledge and practice. Enhancing health literacy among women in healthcare and medical students in Pakistan is crucial to address these gaps.[16]

While women in our study were well-informed about mammography, gaps persisted in the completeness of knowledge and practice. Financial constraints were cited by 3.2% of women as a reason for not undergoing recommended mammograms, highlighting a significant issue in developing countries.[17] Prioritizing healthcare access for screening and oncological investigations is essential for public healthcare systems.

Studies in Pakistan suggest that knowledge about BSE and breast cancer is suboptimal, but there is a willingness to learn.[18-20] A similar study done in Pakistan with only medical students found that only 43.3% respondents believed that BSE should be done once a month. In terms of awareness about breast self-examination technique, 67.6% were not aware and 84.2% showed interest in performing BSE. 64.2% had performed BSE once, off which 42.2% were taught how to do BSE by a health professional. They found that female medical students lacked detailed knowledge similar to what was found in our study and redesigning of curriculums was recommended by the author.[21] A study done in Peshawar, Pakistan amongst healthcare workers also found that most women were well versed in BSE and screening for breast cancer and practices were sub-optimal. They found that of 36.7% doctors and 54.7% nurses those with knowledge of breast self-examination were more likely to practice it; 54% had done it at least once but the standard procedure was not followed. Only 3.3% of women eligible for mammography had it and the major barrier in performing breast self-examination and mammography were embarrassment and anxiety.[22]

Focusing on the diverse female workforce in hospitals, beyond doctors and medical students, is essential. Targeting all women working in hospitals to enhance knowledge about self and clinical breast examinations, screening recommendations, and promoting these practices can significantly benefit the community. Our results emphasize the clear deficiencies in knowledge and practice of breast cancer screening methods even among women working in healthcare settings.

Conclusion

Healthcare workers and hospital employees generally possess sufficient knowledge about breast cancer and basic screening procedures. However, there is room for improvement in attitudes and practices related to early detection and screening. It is crucial to enhance detailed information dissemination concerning screening guidelines within hospital settings.

To address this, initiatives should be implemented by medical undergraduate curriculum coordinators. These initiatives should focus on incorporating breast self-examination, clinical breast examination, and screening guidelines into both the pre-clinical and clinical years of medical education. Additionally, hospitals should actively disseminate relevant information to all employees to raise awareness and promote a culture of proactive screening.

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