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ORIGINAL ARTICLE

Impact of breast cancer awareness health campaigns on knowledge of female educationalists of Islamabad and Rawalpindi; an interventional study

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A B S T R A C T

Introduction: Breast carcinoma is the leading cause of cancer in women worldwide. WHO statistics show 1.2 million new cases every year. Pakistan reports nearly 40,000 lives from Breast Cancer annually.

Objective: To evaluate existing awareness levels regarding breast cancer among female educationalists in twin cities and to counsel the participants about diagnostic tools such as mammographic-screening and breast self-examination

Methodology: The study design was an interventional community trial and was conducted on female teachers aged 30-60 years. Data was collected by a questionnaire, given before and after the interactive session to evaluate its impacts. SPSS Version 23 was used for data entry analysis. Descriptive statistics were used to calculate the quantitative and qualitative variables. McNemar's test was applied for this. P values less than 0.05 were considered significant.

Results: Total number of participants was 106 women with a median age of 43.3 years (range of age 31-54 years). Before intervening, 67 (63.2%) participants had no knowledge of mammographic-screening and 15 (14.2%) participants didn't know the definitive way of diagnosing it. 2 After intervention, mammogram was selected to be the definitive way of diagnosing breast cancer by 91 (85.8%) participants. 91(85.8%) participants would encourage close family and friends to get screened. 104 (98.1%) of women had become familiar with technique of self-examination, as compared to 63 (59.4%) before.

Conclusion: Misconceptions about risk factors, screening methods and diagnostic procedures were identified and elucidated. This encouraged participants to start performing regular self-exams and get mammograms.

Keywords: *Breast cancer, Breast self-examination, female educationists, mammography*

Introduction

According to the WHO, breast cancer numbers have been going up for years and it has been identified as the cancer with the highest female mortality.[1] Over the years there has been huge progress in the search for curative treatments and overall management of this disease. Studies have linked up to 40000 deaths in Pakistan every year to breast cancer.[2] Compared to India and Iran, the incidence rate is nearly two and a half times greater. Pakistan also reports the highest incidence rate in the entire South Asia at 69 per 10,000.[3] Even as the disease continues to affect lives of women across the country indiscriminately regardless of the social barriers. The

availability of medical resources has remained low due to sexual discrimination and societal norms that often actively discourages any talk about female centric health problems. The importance of awareness and early diagnosis can never be overstated.

A research, conducted to find the reasons behind the rise in the incidence of breast cancer in South Africa [3] and why some women were diagnosed late, drew a direct correlation between late diagnosis and poor outcome.[4] Hence, reiterates the importance of self-examination and early diagnosis. Disappointingly, a different study conducted in Bahawalpur, Pakistan, in 2015, found that only four women out of all the respondents had complete awareness about breast cancer.[5] Overall, the majority of them were deemed to have poor knowledge on this matter; an alarming situation in a country so lacking in health infrastructure. Our study was designed to gauge the knowledge and awareness of the female educators. It was also expected to provide an insight into the effectiveness of recent breast cancer campaigns and to highlight the degree of improvement in knowledge regarding breast cancers, pre and post counselling sessions.

Methodology

An interventional study was conducted among female educationalists employed in educational institutions of Islamabad and Rawalpindi, Pakistan. The objective was to determine the effectiveness of breast cancer campaigns and to raise awareness among them. Undergraduate institutions were mainly targeted for study purposes. Study researchers, between first to 31st of November 2019, conducted educational sessions with female educationalists. Total number of 106 women with a median age of 43.3 years (range of age is 31-54 years) participated in the study. They responded voluntarily to participate in this session regarding the basic knowledge about breast cancer and technique of self-examination after informed consent. This research is based on interventional community trials. Research team members under the supervision of the research committee of SIH constructed a structured questionnaire. It consisted of 36 questions. The questionnaires were validated and adjusted on two pilot lectures with 15 participants among each session. Data collected via a self-administered questionnaire was filled by the study subjects, prior to an interactive session with them to test their knowledge regarding breast cancer, its self-examination and screening. An interactive session was given which included knowledge about breast cancer and self-diagnostic techniques illustrated through videos and presentations shown by our female researchers to the study participants.

The study participants completed the questionnaire after the intervention to assess the effectiveness of breast cancer awareness session. The method employed for sample selection was "simple random sampling" and sample size calculated using WHO sample size calculator was 100 to 150. The lecturers used a standardized, culturally sensitive presentation that included the following topics: what is breast cancer, why necessary to raise awareness about breast cancer, breast cancer statistics in Pakistan, breast cancer risk factors, signs and symptoms, benefits of early detection, breast self-examination (BSE) training, how breast cancer is diagnosed, clinical breast examination and mammography, breast health national guidelines and treatment options. Inclusion criteria was females between ages of 35 to 55 and had to be an educationalist at a college or under-graduate level. Exclusion criteria was included male educationalists and female educationalists who refused to participate in the study voluntarily. The ethical approval of this study was granted by the IRB Shifa International Hospital. The participants were informed about the purpose of the study, and informed consent from the participants was taken and they were assured of complete participant confidentiality. The females diagnosed with breast cancer after self-examination were kept anonymous and advised to seek help. Only female researchers presented during interactions with the educationalists regarding the ethical considerations. The 36-item breast health knowledge questions were coded as correct or incorrect in SPSS Version 23. Due to ethical reasons, it was not possible to use any personal identification in some questionnaires, thus the pre-test and post-test questionnaires had to be analyzed as two separate surveys.

Results

Many misconceptions about breast cancer were cleared up after intervention e.g., knowledge about inheritance of breast cancer, diet and other factors affecting breast cancer, benefit of breast feeding against breast cancer

Table 1: Demographic Characteristics of Participants

Variables	Mean	S.D	Range
Age	43.3	7.2	31 - 54
		n	**%**
Education	Bachelors	34	32.1
	Masters	44	41.5
	PhD	14	13.2
	Diploma/Others	14	13.2
Marital Status	Single	23	21.7
	Married	70	66.0
	Separated / Divorced / Widowed	13	12.3

Our participants were female educators of Islamabad, their age ranged from 31 to 54 years, amongst them, most common education qualification was a Master's degree, followed by Bachelor's degree then PhD and Diploma/others.

Table 2: Knowledge about age at risk (Pre intervention)

Which age group has the greatest chance of contracting the disease?	
Range	**Frequency (%)**
30-40	19 (17.9)
40-50	35 (33.0)
Above 50	24 (22.6)
Unsure	28 (26.4)
Total	**106**

These tables compare how often the participants performed breast self-examination. Our results show that of those women who did perform BSE, most performed BSE randomly and the rest were following the advised once a month routine.

Table 3: Knowledge about age most at risk (Post intervention)

Which age group has the greatest chance of contracting the disease? (Post Intervention)	
Range	**Frequency (%)**
30-40	5 (4.7)
40-50	26 (24.5)
Above 50	75 (70.8)
Total	**106**

These tables compare the participant's knowledge regarding age group that is most at risk before and after intervention. Before intervention, only 22.6 % of participants correctly pointed out the age group that is at greatest risk of contracting Breast Cancer, where as a majority, 70.8%, correctly pointed out this age group post intervention.

Table 4: Breast Self-examination (Pre intervention)

How often do you self-examine?	
	Frequency (%)
Random	24 (22.6)
Once a month	10 (9.4)
No comments	72 (67.9)
Total	**106**

Table 5: Breast Self-examination (Post intervention)

How often do you self-examine?	
	Frequency (%)
Random	19 (17.9)
Once a month	15 (14.2)
No comments	72 (67.9)
Total	**106**

Table 6: why don't you self-examine? (Pre intervention)

If not, why don't you self-examine?	
Options	**Frequency (%)**
I do not know how to do it	53 (50.0)
I feel scared about actually finding a tumor	19 (17.9)
No comments	34 (32.1)
Total	**106**

Table 7: Why don't you self-examine? (Post intervention)

If not, why don't you self-examine? (Post Intervention)	
Options	Frequency (%)
I do not know how to do it	53 (50.0)
I feel scared about actually finding a tumor	19 (17.9)
No comments	34 (32.1)
Total	106

These tables compared the various reasons why our participants did not perform BSE. The most common reason among those who did not perform BSE was a lack of knowledge about proper technique, followed by the fear of actually finding a tumor.

Table 8: Diagnosing Breast Cancer (Pre intervention)

Which of the following, do you think is the most definitive way of diagnosing Breast Cancer?	
Options	Frequency (%)
Mammogram	44 (41.5)
Breast Ultrasound	14 (13.2)
Breast MRI	10 (9.4)
Biopsy	23 (21.7)
Unsure	15 (14.2)
Total	106

Table 9: Diagnosing Breast Cancer (Post intervention)

Which of the following, do you think is the most definitive way of diagnosing Breast Cancer? (Post Intervention)	
	Frequency (%)
Mammogram	91 (85.8)
Breast Ultrasound	0 (0.0)
Breast MRI	0 (0.0)
Biopsy	5 (4.7)
Unsure	10 (9.4)
Total	106

These tables compared the participant's knowledge about the definitive ways of diagnosing breast cancer. Of the results before intervention, only 41.5% of participants correctly chose Mammogram as the most definitive way of diagnosing breast cancer, however after intervention this rose to 85.8%.

Table 10: Knowledge about Mammography (Pre intervention)

If yes, then what is your source of knowledge about Mammography?	
Options	Frequency (%)
Social media	20 (18.9)
Posters/Print media	9 (8.5)
Television/Movie	9 (8.5)
Someone talked to me about it	5(4.7)
I attended a seminar/Educational conference.	5 (4.7)
Someone close to me was diagnosed with breast cancer	19 (17.9)
Unsure/No comments	39 (36.8)
Total	106

Table 11: Knowledge about Mammography (Post intervention)

If yes, then what is your source of knowledge about Mammography? (Post intervention)	
Options	Frequency (%)
Social media	20 (18.9)
Posters/Print media	15 (14.2)
Television/Movie	5 (4.7)
Someone talked to me about it	5(4.7)
I attended a seminar/Educational conference.	42 (39.6)
Someone close to me was diagnosed with breast cancer	19 (17.9)
Unsure/No comments	0 (0.0)
Total	106

Our results show that before intervention Social Media was the prime source of information about Breast Cancer for the participants and only 4.7% of participants had ever attended a seminar/educational conference regarding the topic of Breast Cancer.

Table 12: Consider getting screened

Will you ever consider getting screened?	
Options	Frequency (%)
Yes	58 (54.7)
No	23 (21.7)
Don't Know	5 (4.7)
Not Answered	20 (18.9)
Total	106

In this table we can see that a majority of the participants would consider getting screened which is an encouraging finding.

Discussion

Our results show that many female educationalists have a basic understanding of breast cancer but lack the knowledge of its risk factors and the importance of breast self-examination. Over 80 (77.4%) participants in this study had heard about breast self-examination, which was similar to the Egyptian study that reported 63.4% of participants had heard about breast self-examination.[6] However relatively few (40.6%) participants knew the correct technique of breast self-examination. Similarly, a study conducted among women in Ondo state, Nigeria Makanjuola et al., (2013) reported that only 22% of participants understood what BSE was.[7] We found that of the participants who performed breast self-examination, only a few (29.4%) had correct knowledge regarding the recommended frequency (monthly) to perform breast self-examination. However, the study among female university students in Egypt reported that only 8.8% of participants knew the appropriate time to perform breast self-examination.[6]

A concerning finding in our study was that few (32.2%) participants performed BSE, and most of the participants (67.8%) rarely performed breast self-examination. This finding was consistent with that of a study among female university students in Jordan that reported 11% of participants performed breast self-examination.[8] The two most common reasons for not performing breast self-examination given by participants in our study were “do not know how to perform breast self-examination” and “scared of actually finding a tumor”. The study involving Egyptian students reported similar reasons for not performing BSE, such as “did not know how to perform BSE” and “lack of interest”.[6]

An encouraging finding in our study was that many stigmas and questions about breast cancer were answered, and many participants were ready to encourage their family and friends to get screened for breast cancer and to perform regular breast self-examination.

In our study, most of the participants were knowledgeable about certain risk factors (environmental pollutants, family history, age) and their associations with breast cancer. Most (78.6%) could identify the age group at greatest risk of developing breast cancer (after age 50) which is similar to a study done in Iran which identified the mean age of developing breast cancer to be 48 years of age.[9]

Conclusion

The rise in number of breast cancer cases is, fortunately, accompanied by increasing cognizance amongst the populace. Almost all study participants had previously heard about the disease and 77% responded positively when questioned about awareness regarding basic self-examination. Word of mouth and social media were credited for this increased awareness and identified as the most effective mediums for future campaigns.

The most worried finding was that 21.7% people refused the possibility of a future screening. The fear of being diagnosed positive for the disease was reported to be the primary cause of this refusal. It is paramount that future campaigns focus on reducing this fear and work on increasing the number of people willing to get screened.

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