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Original Article

The Impact of Information Seminar on Breast Cancer Awareness among the Medical and Nursing Students

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ABSTRACT

Objective: To determine the impact of the information seminar on breast cancer awareness among the medical and nursing students of CMH institute of Medical Sciences (CIMS) Multan Pakistan.

Study Design: Prospective Comparative Study.

Place and Duration of Study: One-day seminar at CMH Institute of Medical Sciences (CIMS) Multan Pakistan.

Methodology: A one-day seminar on breast cancer awareness was arranged at CMH Institute of Medical Sciences Multan Pakistan for 3rd and 4th-year MBBS and 3rd-year BSc Nursing students. A total of 137 participants were recruited. Participants were selected by non-probability consecutive sampling. A validated 13-question questionnaire was designed to assess participants' basic knowledge of breast cancer and breast self-examination (BSE).

Results: The mean age of participants was 21.27±0.99 years. 30(21.9%) were males and 107(78.1%) were female students. Before the seminar, approximately half of the students were correct about the demographics and presentation of breast cancer which increased to more than 80% in all avenues post-seminar (p<0.001). The most significant improvement was the correct responses regarding the age at which BSE should begin. Its frequency and correct technique pre-seminar were 75(54.7%), 51(37.2%) and 23(16.8%), which in post-seminar were 98(71.5%), 106(77.4%) and 75(54.7%) respectively (p<0.001).

Conclusion: This one-day educational seminar played a significant role in increasing awareness among medical and nursing students.

Keywords: Awareness, Breast cancer, Medical students, Seminar.

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INTRODUCTION

According to the WHO cancer profile for Pakistan, approximately 35,000 new cases of female breast cancer are diagnosed annually, far exceeding any other type of malignancy, and breast cancer account for 30.8% of cancer mortality in Pakistani women.[1,2]

This is evident from the late presentation of cancer even in this population group.[3] Primary physicians, nurses and community health workers can play the most significant role in spearheading awareness about cancer. Training and educating this group regarding breast cancer is of utmost importance to encourage early detection.[4,5] This effort can have an impact on breast cancer survivorship. A limited number of studies had been conducted regarding breast cancer awareness in the Pakistani population, and one such research showed insufficient understanding among medical and non-medical students.[6,7]

Seminars and workshops hold a very important place in imparting medical knowledge theoretically and hands-on training to students resulting in honing their practical skills.[8,9] In addition, seminars allow for active participation of students in the teaching-learning process, thereby allowing a deeper understanding of difficult concepts, better retention and improved teaching outcomes.[10] This study evaluated the impact of a seminar on breast cancer awareness in improving key knowledge among medical and nursing students.

METHODOLOGY

This prospective comparative study was conducted at CMH Institute of Medical Sciences (CIMS) Multan Pakistan, among medical and nursing students. A one-day seminar on 'Breast cancer awareness" was held at CIMS Multan. The event was attended by students of MBBS and BSc Nursing courses. Study participants were selected by non-probability consecutive sampling. The sample size was calculated using the GPower software. By keeping the values of effect size as 0.25, alpha as 0.05, and beta as 0.8,[11] a sample size of 126 was calculated.

Inclusion Criteria: Students of 3rd and 4th-year MBBS and 3rd-year BSc Nursing courses were included in the study.

Exclusion Criteria: Non-consenting students were excluded from the study.

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A 13-question questionnaire was developed, keeping the target population and study goals in mind. It aimed to assess the basic knowledge about breast cancer and breast self-examination. Two experts in oncology validated the questionnaire. In addition, the students were given printed questionnaires to be filled out before and then at the end of the information seminar.

At an expected response rate of about 90%, the questionnaire was distributed to 140 students. A total of 137 duly filled pre- and post-seminar questionnaires were included in the analysis. Three forms that were incompletely filled or illegible were discarded.

The data were analyzed using Statistical Package for Social Sciences (SPSS) version 24. Continuous variables like age were expressed as mean±SD, while frequency and percentage were calculated for categorical variables. The difference between the two groups was determined by the Mc-Nemar test. The *p*-value of ≤0.05 was considered statistically significant.

RESULTS

The total number of study participants was 137, out of which 30(21.9%) were male and 107(78.1%) were female. The mean age of participants was 21.27±0.99 years. 91(66.43%) students were from the M.B.B.S course while 46(33.57%) were from BSc. Nursing. The characteristics of the study participants are listed in Table-I.

The study questionnaire was designed as a Yes or No response. The total number of yes and no responses to each of the 13 questions were calculated first in the pre-seminar feedback and then in post-seminar feedback. There was a statistically significant increase in knowledge about breast cancer in pre and post-seminar feedback in most of the questions, as evident in Table-II.

Table-I: Characteristics of Study Participants (n=137)

Characteristics	n(%)
Age (Years)	
Mean±SD	21.28 ± 0.99
Gender	
Male	30 (21.9%)
Female	107 (78.1%)
Course	
MBBS	91 (66.4%)
Nursing	46 (33.6%)

The fact that breast cancer does not run in the family only and can occur in all ages was known to the students, so there was no statistically significant increase in correct answers to questions 1 and 5. Similarly, there was no change in answers to questions 9 and 10, as all participants agreed that increased awareness can promote early detection of breast cancer and that all had heard about BSE.

DISCUSSION

Raising awareness about breast cancer amongst our medical and nursing graduates is extremely important. The front-line practitioners have direct contact with the patients and the general population. They can also lead in heading awareness campaigns and education drives among women regarding breast cancer awareness. Delay in diagnosis leads to advanced stage at presentation and consequently higher mortality[11-13].

Table-II: Response of Participants Pre-Seminar and Post- Seminar (n=137)

Questions	Pre-Seminar (n=137)		Post Seminar (n=137)		*p*-value
	Yes n(%)	No n(%)	Yes n(%)	No n(%)	
Knowledge related to breast cancer Epidemiology and risk factors					
Breast cancer runs in family only	23 (16.8%)	114 (83.2%)	18(13.1 %)	119(86.9%)	0.500
It is commonest cancer in women worldwide	81(59.1%)	56(40.9 %)	135(98.5 %)	2(1.5 %)	<0.010
A lump in breast is always cancer	67(48.9%)	70(51.1 %)	36(26.3 %)	101(73.7%)	<0.010
Most women with breast cancer have no known risk factor	63(46 %)	74(54 %)	94(68.6 %)	43(31.4%)	<0.010
It occurs in all ages	117(85.4%)	20(14.6%)	129(94.2%)	8(5.8%)	0.290
Women with breast cancer present late in Pakistan	96(70.1%)	41(29.9%)	127(92.7%)	10(7.3%)	<0.010
Breast cancer is always fatal	65(47.4%)	72(52.6%)	28(20.4%)	109(79.6%)	<0.010
Early detection improves survival	126(92%)	11(8%)	136(99.3%)	1(0.7%)	0.006
Increasing awareness can promote early detection of breast cancer	137(100%)	0(0%)	137(100%)	0(0%)	-
Knowledge regarding Breast Self-Examination (BSE)					
Have you heard of BSE	95(69.3%)	42(30.7%)	137(100%)	0(0%)	-
Age at which BSE should begin in 25 years	62(45.3%)	75(54.7%)	39(28.5%)	98(71.5%)	0.007
BSE should be performed once monthly	51(37.2%)	86(62.8%)	106(77.4%)	31(22.6%)	<0.01
Do you know the correct technique of BSE	23(16.8%)	114(83.2%)	75(54.7%)	62(45.3%)	<0.01

Keeping these facts in mind, this study was designed to evaluate the participants' baseline knowledge about breast cancer and the effectiveness of educational seminars in improving their concepts and understanding. Upon analysis, it was found that while agreeing that increasing awareness was paramount in early detection, the participants lacked insight into the true depth of the problem. Although most students knew that breast cancer does not run in the family only, a majority did not know that breast cancer was the commonest cancer in women worldwide, can occur at all ages, with no risk factors, and that breast cancer is not always fatal. The percentage of correct responses to these questions increased significantly post-seminar. It was observed that before the seminar, 48.9%(67) of participants said that a lump in the breast is always cancer and 92%(126) students agreed that early detection improves survival in patients.

Furthermore, 75(54.7%) students knew when breast self-examination should begin. In comparison, only 51(37.2%) and 23(16.8%) students were correct about the frequency and technique of Breast self-examination (BSE), respectively. These perceptions changed significantly in post-seminar responses in our study. Post-seminar, the number of participants identifying the right age at which the breast self-examination should begin, frequency of examination and correct technique rose to 98(71.5%), 106(77.4%) and 75(54.7%), respectively.

Similar results have been observed by Schmidt-Vaivao *et al*. 2010, who assessed the effectiveness of a Breast Cancer awareness workshop. Their work revealed that 83% of participants had some general knowledge about breast cancer before the workshop. However, only 50.1% knew how to perform BSE, a proportion that increased to 90.2% after attending the workshop.[14] The pre-seminar response to breast self-examination is concerning since it is an important tool in population screening. A meta-analysis by Hackshaw et al. 2003 showed a 40% reduction in the relative risk of having the advanced disease in women newly diagnosed with breast cancer who regularly practised self-examination.[15]

The role of BSE has been questioned in some recent studies.[16,17] It is, however, important to note that these studies have been performed in developed countries where women have access to regular health checks and efficient primary care. In developing countries like ours, where breast cancer is routinely diagnosed at an advanced stage, BSE combined with Clinical Breast Examination (CBE) can effectively reduce delays and mortality. As shown by Miller *et al*. 2011, in countries where breast cancer was diagnosed at an advanced stage, BSE combined with CBE can effectively reduce mortality.[18] In our study, the post-seminar responses showed a significant increase in the percentage of participants who knew the correct technique and frequency of BSE.

This study showed that educational seminars have a positive role in teaching university students. Lee *et al*. demonstrated that group interventions in the form of teaching activities allow participants to overcome the barriers that normally delay cancer detection and increase screening behavior.[19] A study by Khokhar *et al*. showed that overall, 66% of partici-pants had an increase in their knowledge score after attending an audiovisual activity seminar.[20] The benefits of these activities can be observed in participants, both from the general public and medical professionals. Bindawas *et al*. 2013 demonstrated a significant improvement in knowledge and attitudes towards evidence-based healthcare in academic staff who had attended at least one of the monthly CME activities at King Saud University, Saudi Arabia.[21] Our work, in congruence with previous research, proves that interactive educational seminars coupled with participant feedback can be a useful tool in increasing awareness among medical and nursing students.

CONCLUSION

An interactive seminar played a significant role in improving the concepts and teaching the BSE technique to students. More often, medical universities need to conduct such activities to identify gaps in knowledge and improve students' knowledge by actively engaging them.

Conflict of Interest: None.

Author's Contribution

Following authors have made substantial contributions to the manuscript as under:

MN: Conception, study design, data acquisition, data analysis, data interpretation, approval of the final version to be published.

NK & IAS: Critical review, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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