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Knowledge, Attitude and Practice of Breast Cancer Screening in Medical and Non-Medical Females Students of Lahore, Pakistan

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ABSTRACT

Introduction: Breast cancer is the most common cancer in women all over the world and a leading cause of death in women of Pakistan. Programs promoting awareness about breast cancer, breast self-examination (BSE), clinical breast examination (CBE) and mammography are in place but still BSE is poorly practiced by females of Pakistan. **Aims & Objectives:** To assess and compare the knowledge, attitude and practice about breast cancer screening among female medical and non-medical students of two institutes in Lahore, Pakistan. **Place and duration of study:** Study conducted during May-June 2017 in Shaikh Khalifa Bin Zayed Al-Nahyan Medical College and Kinnaird College University in Lahore, Pakistan. **Material & Methods:** A cross sectional survey was conducted during May-June 2017 on a conveniently selected sample of 200 female students from two colleges in Lahore. A self-constructed and self-administered questionnaire was used to assess the knowledge, attitude and practice of breast cancer screening. Data was entered and analyzed using SPSS version 21. **Results:** Mean age of 21.66±1.50 and 22.58± 2.138 was observed in medical and non-medical students respectively. In the age group 18-23 we had 85% of medical girls and 61% of non-medical while 39% of non-medical girls were in age group 24-29. Among 100 female medical students, 84% were knowledgeable about BSE as compared to 65% non-medical students. Knowledge was adequate for CBE in 74% and 53%, and for Mammography in 83% and 58% of medical and non-medical students respectively. The attitude was positive towards BSE in 92% and 75%, for CBE 89% and 74%, and for mammography 94% and 83% among medical and non-medical students respectively. The BSE practice was reported by 20% medical girls and only 13% non-medical girls, while CBE practice was in 13% medical and 5% non-medical girls. **Conclusion:** Medical students were more knowledgeable and had a better attitude about breast cancer screening as compared to non-medical girls but when it came to practice, it was found to be very low in both groups.

Key words: Breast cancer, Breast self-examination, clinical breast examination, mammography, screening

INTRODUCTION

Breast cancer was seen as the 3rd highest incident carcinoma among females in 2017.[1] Burden of breast cancer is increasing over time in developing as well as developed countries.[2] Despite of better survival after timely treatment, we can still find many factors influencing treatment success and adherence.[3] Pre-menopausal and post-menopausal incidence and mortality of breast cancer is alarmingly high in low HDI (Human development Index) countries.[4] Mortality rate in low and middle-income countries is on the rise as they lack adequate timely screening and treatment resources.[5] Awareness and breast care seeking practices are found to be poor in developing countries.[6] Pakistan has higher incidence of breast cancer than neighbouring countries.[5] Delay in breast cancer diagnosis is quite common in Pakistan due to late presentation.[7] An estimated and projected analysis was conducted in Karachi, Pakistan. It showed increase in breast cancer incidence among post-menopausal women in age group 55 to 59, on the other hand a stable increase can be observed in incidence in women of 15-29 years along with

increase in pre-menopausal group as well.[8] The incidence of breast cancer in Karachi, Pakistan is 69.1 per 100,000 and in Lahore the incidence of breast cancer is alarming. Pakistan has the highest incidence of breast cancer amongst other Asian countries.[9]Risk factors for breast cancer include obesity, no or little physical activity, alcohol consumption, early onset of menstruation, family history, radiation exposure, hormone replacement therapy for menopause, having no children at all or having children at late age.[10]

BSE, CBE and mammography are the breast cancer screening practices that can help in the early diagnosis of breast cancer.[11,12] Breast self-examination is a screening method that can help in the early diagnosis of breast cancer. It is simple and inexpensive and can be performed very easily but the efficacy remains doubtful for this test.[13] Mammography can detect breast cancer at an early stage and when followed up with proper treatment it can reduce mortality.[14] Timely mammography significantly reduces breast cancer mortality in women aged 50 to 74 years after 7 to 9 years of follow-up, in contrast to women aged 40 to 49 years after 10 to 12 years of follow-up.[15] Mammography in postmenopausal women is an effective method for reducing mortality.[16] CBE helps in detection of breast cancer by helping in diagnosis of breast cancer where mammography facility is not available.[17,18,19] CBE is considered a useful method for detecting palpable breast cancer.[19] The breast cancer screening can play a very important role in the early diagnosis of breast cancer and so can decrease the burden of breast cancer from the society.[20,21]

In Western countries a lot of work is being done to spread awareness amongst women regarding breast cancer and its various screening methods but unfortunately in Pakistan even more is needed. This study was carried out with the aim to assess the knowledge, attitude and practices of medical and non-medical students towards screening of breast cancer. Screening tests can help in early diagnosis and if observed regularly, they can play a major role in timely treatment thus improving the prognosis of breast cancer in Pakistan.

MATERIAL AND METHODS

A cross-sectional survey was conducted on 200 young females aged 18-29 years, belonging to all years of study and courses from Shaikh Khalifa Bin Zayed Al-Nahyan Medical College, (SKZMDC) Lahore and Kinnaird College (KC) Lahore. Data was collected from 1st May to 30th June 2017. Those who volunteered were selected using convenient sampling method till the desired sample size was complete. 100 out of 250 medical girls of MBBS from SKZMDC and 100 non-medical females out of 4500 girls of KC were included in the study. Sample size was calculated using Rao-soft sample size calculator with 95% confidence level, 0.05 precision and taking expected knowledge as 0.5 (50%). These 2 institutes were selected on the basis of administrative and geographical convenience. Verbal informed consent in the presence of a witness was taken. Data was collected on educational level, age and marital status. A self-structured, purposely-designed questionnaire was self-administered.

Ethical review was conducted and all ethical considerations were addressed in the study and their adherence was monitored by the supervisor. The participation was voluntary after verbal informed consent. The anonymity of the participants was maintained.

Statistical analysis:

The Statistical Package for Social Sciences Software (IBM SPSS version 21) was used. In order to analyze the statistical significance of difference in perception of breast cancer in both groups, chi-square (χ^2) test was applied.

RESULTS

Among these 200 students, mean age was 21.66+1.50. In medical females, mean age was 21.18+1.695. Among them 85/100 (85%) were in the age group of 18-23 years while 15/100 (15%) were in age group 24-29. In non-medical females, mean age was 22.58+ 2.138. Among them 61/100 (61%) were in the age group of 18-23 years while 39 /100 (39%) were in age group 24-29. All medical females were unmarried (100%) and 10% of non-medical were married and 90% are unmarried. Knowledge, attitude and practices of both groups are presented in Table-1.

Knowledge level was significantly different among medical and non-medical females with a p-value of 0.004, 0.002 and 0.001 for BSE, CBE and mammography respectively. Attitude was also significantly different in both groups in BSE and CBE with p-value of 0.001 and 0.006 respectively. Practices were not different in both groups in BSE but for CBE it was different with p-value of 0.04 (Table-2). Overall practice was poor while knowledge and attitudes were better.

Variables	Medical Students n=100	Non-Medical Students n=100
Heard about breast cancer		
Yes	96%	96%
No	4%	4%
Know about breast self examination		
Yes	84%	65%
No	16%	35%
Perform breast self examination regularly		
Yes	20%	13%
No	80%	87%
breast self examination is useful		
Yes	92%	75%
No	8%	25%
Know about clinical breast examination		
Yes	76%	50%
No	24%	50%
Got clinical breast examination regularly		
Yes	13%	3%
No	87%	97%
Clinical breast examination useful		
Yes	89%	90%
No	11%	10%
Know about mammography		
Yes	83%	58%
No	17%	42%
Females must get mammography done		
Yes	95%	76%
No	5%	24%
Should mammography be done before 30 years of age		
Yes	81%	55%
No	19%	45%
Mammography is necessary		
Yes	87%	72%
No	13%	28%
Mammography is useful		
Yes	94%	83%
No	6%	17%

Table-1: Breast Cancer Screening knowledge, attitude and practices in medical and non-medical students

Level	Screening methods	Medical Students (100)	Non-Medical Students (100)	P value
Knowledge	**BSE**			
	Yes	84	65	0.004
	No	16	33	
	CBE			
	Yes	74	53	
	No	26	47	0.002
	Mammography			
	Yes	83	58	
	No	17	42	0.001
Attitude	**BSE**			
	Yes	92	75	0.001
	No	8	25	
	CBE			
	Yes	89	74	
	No	11	26	0.006
	Mammography			
	Yes	94	83	
	No	6	17	0.014
Practice	**BSE**			
	Yes	20	13	0.182
	No	80	87	
	CBE			
	Yes	13	5	
	No	87	95	0.048

Table-2: Breast Cancer Screening knowledge, attitude and practices in medical and non-medical students with p-value

DISCUSSION

Substantial amount of studies have been conducted on breast cancer and its available screening tests in America, Nigeria, and Asian countries.[11,12,22,23,24] Current literature from GBD (global burden of diseases) shows alarming rise in breast cancer incidence highlighting the need for mass awareness campaigns for early diagnosis of breast cancer so to influence prognosis.[3,5] Projected figures of breast cancer mortality showed growth with time, especially in females of older ages amongst four Asian countries and with highest forecasted mortality rates of breast cancer in Pakistan.[25]

Our study showed that knowledge, attitude and practices about breast cancer screening are comparatively more in medical females than non-medical females. The obvious reason is exposure of medical students to breast cancer issue and screening methods during their course of study, as part of their curriculum, compared with non-medical females. Though the exposure to curriculum among medical students must have raised their awareness about all screening methods but our results showed 74 to 84% knowledge about BSE, CBE and

mammography among medical females, while practice of BSE and CBE was quite poor (20% & 13%). On the contrary, non-medical females though less knowledgeable than medical students, showed better knowledge (CBE 53% to BSE 65%) and attitude (CBE 74% to mammography 83%), keeping in view their limited exposure to awareness regarding screening of breast cancer.

Awareness about breast cancer screening especially BSE remained a focus in developing countries as it is a cheap, less time consuming and good method of detection of slightest changes in breast.[6] Studies conducted in Pakistan during last one and a half decade showed a low level of awareness about screening methods and correct technique of use.[26,27] In 2009, a study conducted on 200 patients in tertiary care Hospital in Lahore showed that 36.9% practiced BSE, 4.9% CBE and only a few had mammography at some point in their life.[20] This showed very little knowledge in cases of breast cancer coming from general population but in our study non-medical females were better aware about screening methods and practices were 13% in BSE. This is due to changing trend over a decade but not a significant improvement in practices though knowledge level is better in students from general population.

Our study indicates that the level of practice of BSE is low in the medical girls as well, and it is particularly important to improve their skills and knowledge. Some studies indicate that the level of knowledge, attitude and practice of Breast self-examination, Clinical breast examination and mammography has a relation with type and level of education and family history of breast cancer.[20,28] This relation can also be seen in our study, which shows that medical girls have more level of knowledge, attitude and practice for screening methods than non-medical girls. Clinical training may have improved knowledge of medical students about breast cancer and its screening but the practice and frequency of BSE among medical students is low than anticipated.[29] A cross-sectional study in Ethiopia in 2019 showed 32.6% practice of BSE among female healthcare providers.[30] There is a difference of BSE practice in female medical students and female healthcare providers partly due to the curriculum failing to bring the desired behavior change and on the other hand even graduates are not practicing as required. There is a need for behavior change interventions for medical professionals and students as well as females from general public, particularly students.[31]

Looking at the current scenario of high incidence of breast cancer in both pre and post menopausal women and another rising peak in early adulthood (15 to 29 years) in Pakistan, there is a dire need to raise the level of knowledge, bring desired attitude and develop practice about BSE, CBE and mammography not only in non-medical girls but also in medical girls so they can teach and train females around them in families, clients and workplace.

Our study was conducted in two settings and only on students so we could recommend doing a larger study by focusing on more groups and plan interventional strategies according to the target populations. There is a need to arrange various seminars and programs for the awareness of breast cancer and its various screening methods. Every girl should get an opportunity to have knowledge of breast cancer and its various screening methods. Medical schools and non-medical institutes may review and revise their curriculum to include teaching and training of such important public health problem. Timely diagnosis can help combat the implications and prognosis of breast cancer, an emerging pandemic.

CONCLUSION

Our study showed that medical girls had good knowledge about breast cancer screening as compared to non-medical girls but the level of practice is found to be very low in both the groups, driving our attention to an urgent need of behavior change communication for these vulnerable groups.

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