Sial Journal of Medical Sciences
ISSN Online: 2959-6939
ISSN Print: 2959-6920
Vol. 1, Issue 1, 2022

EARLY BREAST CANCER DETECTION; KNOWLEDGE AMONG FEMALE MEDICAL STUDENTS

Mujahid Huussain[1], Mahnoor Mujahid[2], Mohammad Arshan Shahid[3], Aimen Khizar[4], Aiza Usman[5], Amara Asif[6], Anmol Kiran[7], Farina Tahir[8], Hannan Dar[9], Hassam Tariq[10], Hira Shahid[11], Huda Fatima[12], Husnain Tariq[13], Iqra Bilal[14], Namrah Wajid[15], Ramish Sohaib[16], Ramsha Zahra[17], Hasnain Aslam[18], Rida Fatima Touqeer[19], Zain Bin Zahid[20], Zainab Naz[21], Zainab Pervaiz[22], Khadija Akhtar[23]

Affiliations

1. Assistant Professor, FG College Kharian-Cantt.

2. WMO Children Hospital, Lahore

3 – 23 MBBS Students, Sialkot Medical College, Sialkot.

Corresponding Author:
Dr. Mujahid Hussain
Contact # 0303-9327717/0331- 1287630
Email:
hmujahid64@yahoo.com

ABSTRACT

OBJECTIVE

The objective of this study is to assess the level of knowledge of screening for early detection of breast cancer among female medical students.

STUDY DESIGN

It is a cross sectional, questionnaire-derived conducted in Sialkot Medical College, Sialkot, Pakistan from January through March, 2022.

METHOD

One hundred and ten female students (22 per academic year of MBBS syllabus) were recruited using convenience sampling technique. A locally developed questionnaire including two segments viz. sociodemographic information, and knowledge of screening for early detection of breast cancer with 12 close-ended items (total potential score: 1x12 = 12) was served for self-reporting in open time. The degree of knowledge was classified, as: inadequate (score: 1-9) and adequate knowledge (10-12).

RESULTS

The response rate of the students (aged: 20.54 ± 2.07 years) was found to be 96.4%. Only five subjects (i.e. 4.7% of total 106) reported history of the cancer in first degree relatives. Almost all the respondents i.e. 105 (99.1%) marked correct option against an item on social media as source of knowledge of the cancer followed by item on mammography. Similarly, they had more knowledge on breast self-examination than clinical breast-examination (maximal correct response: 87.7% vs. 85.8%, respectively). Majority of them (n
= 94, 88.7%) had adequate level of knowledge on screening for early detection of the tumor. Moreover, a remarkable difference in rate of adequate knowledge was recorded between rural (97.8%) and urban residents (82.0%).

CONCLUSION

Female medical students have adequate level of knowledge on screening for early detection of breast cancer.

KEY WORDS

Breast Cancer, Breast Self-Examination, Early Detection of Cancer, Knowledge, Medical Students.

Sial Journal of Medical Sciences
ISSN Online: 2959-6939
ISSN Print: 2959-6920
Vol. 1, Issue 1, 2022

INTRODUCTION

Breast cancer (BC) is the most common heterogeneous malignancy[1] among women. Unfortunately, it is detected at advanced complicated stages because its initial signs and symptoms progress are not felt seriously. The late detection makes the treatment difficult, costly, and uncertain. Subsequent delay in therapy increases the risks of mortality.[2] Developing countries face this late more frequently than advanced one on account of hospital phobia, and sociocultural barriers beside weak financial resources.

A woman with sufficient knowledge on early signs and symptoms of breast cancer can go for its screening-based detection at its initial stages of course for better prognosis as in gastroesophgeal cancers.[3]

In this context, a screening techniques called breast self-examination[4] is advised for the beginners. Health care professionals are supposed to train the public for this very decisive skill. Low-risk women also experience another effective stand-alone screening modality “clinical breast-examination” especially in low- or middle income countries.[5] Similarly, public campaign is launched periodically for mammography[6] to detect any characteristic masses/micro-calcifications.

In women of any age group, Knowledge on screening of early detection of BC precedes its attitude and practice. Surprisingly, university[7] or medical students are found knowledge-deficient; hence, stay under high vulnerability of BC morbidity. On the other side, middle-aged women (25-34 years) possess better knowledge of BC than higher or lower age groups;[8] more probably due to aspiration for healthy family life. Well in time genomic testing[9] of first degree relatives can warn about any upcoming experience of BC. So, edequate level of the awareness is expected from a female medical student with family history of BC.

In published literature, there is a Syrian article[10] on knowledge and attitude of early detection of BC among female medical student. However, one cannot find a single paper on sole knowledge. This particular study is framed to cover the research gap (particularly with reference to Sialkot) with objective, to assess the level of knowledge on screening for early detection of breast cancer among female medical students. Its findings will support the responsible agencies in making and implementing the knowledge-enhancing policies.

METHODOLOGY

Sialkot Medical College (SMC) was selected from a pool of three medical colleges at Sialkot (Pakistan), purposely. The college had registered students in all the five years of MBBS course with diverse family backgrounds and lifestyles. The present cross sectional questionnaire-derived study was conducted from January through March 2022 after getting permission from ethics committee of the SMC. Findings have no evidence of similar published study. Sample size was set at 110 including 10% non-response risk. From each year of the course, 22 students were recruited (using lottery method). Moreover, all the recruiters gave written participation consent.

A questionnaire was designed by a team of medical professionals, human psychologists, and linguistic experts before its development (Cronbach’s α = 0.87). The tool had spaces for entries of socio-demographic information beside 12 close ended items with options of Yes/No. First four items were on breast cancer (BC)-related general knowledge while 5-12 on its screening techniques for early detection. Correct option carried ONE

Sial Journal of Medical Sciences
ISSN Online: 2959-6939
ISSN Print: 2959-6920
Vol. 1, Issue 1, 2022

MARK; hence, total possible score = 12. The scores were categorized, as: poor score = 0-6; average = 7-9, or good knowledge on BC = 10-12. In broader sense, inadequate knowledge = 0-9, and adequate knowledge (AK) = 10-12. For self-reply, the tool was administered to the subjects for open time clarifying objectives of the study, and secrecy of the responses.

Techniques in descriptive statistics were used to see rate of level of AK on BC. The level of association of AK with socio-demographic variables was seen processing the data for chi-square test in SPSS version 25.0 (SPSS Inc., Chicago, IL). A p-value (<0.05) was considered as significant.

RESULTS

The response rate i.e. rate of submission of completely filled in purpose-built questionnaire on knowledge of screening for early detection of cancer in open time was found to be 96.4% (n = 106) excluding two participants from each of the 2nd and 3rd academic years of the MBBS professional course. Their biological age ranged between 17 and 24 (20.54 ± 2.07) years as per Computerized National Identity Card' record. Majority of them (57.5%, n = 61) reported residence in urban areas, and 97.2% (n = 103) were single with respect to marital status. One hundred and one respondents (i.e. 95.3%) had no precedence of breast cancer in the first degree relatives like mother, sister etc.

The line chart (Figure-1) clearly represents the rate of sub levels of knowledge on breast cancer using the data from outputs of SPSS-mediated statistical technique. Remarkably higher rate was noticed against good sublevel (88.7%, n = 94) followed by average category. However, there was just a single case with poor knowledge. Similarly, the rate of adequate level of the knowledge was noticed, as: 88.7%, n = 94 i.e. equivalent to that of good sublevel.

The rate of correct options against questionnaire's items on knowledge of breast cancer shows variation as displayed in Table 1. Comparatively, higher rate i.e. 99.1% (n = 105) was observed against item No. 1 "Social media is the most suitable source of knowledge on breast cancer". It was followed by 95.3% (101) of item No. 12 on mammography for screening of breast cancer. Whereas, the rate ranged between 79.2 and 87.7% with respect to knowledge on breast self- examination (item No. 5 to 9). A decreasing trend in rate was noticed when items on clinical breast-examination (No. 10 & 11) were statistically analyzed; item No. 11 carried the least rate of correct option.

Data in Table II show a clear picture of significance level of association between rate of adequate knowledge (AK) on breast cancer in the participants using 2x2 cross tabulation technique and chi-square test in SPSS ver. 25.0. A high rate i.e. 97.8% (n = 44) against current rural residence had statistically significant difference with 82.0% (n = 50) of urban background. Similarly, the rate increased with increase in level of category of a variable i.e. age group (˃20 years) of biological age or group study year of MBBS (˃3) had higher rate than their counterparts. On the other hand, comparatively higher rate AK was noticed among unmarried group or with family history of breast cancer than that of married or with no family history of breast cancer.

Sial Journal of Medical Sciences
ISSN Online: 2959-6939
ISSN Print: 2959-6920
Vol. 1, Issue 1, 2022

Table-1. Items on knowledge of breast cancer (*N* = 106)

Type	No.	Statement	BC screening (5-12)
General (1-4)	1.	Social media is the most suitable source of knowledge on breast cancer	**Yes**; 99.1% (105)
	2.	Breastfeeding lowers the risk of breast cancer	**Yes**; 92.5% (98)
	3.	Generally, women perceive breast examination as an unpleasant event	**Yes;** 87.7% (93)
	4.	There is immediate need of doctor's visit on seeing a lump in breast	**Yes;** 88.7 (94)
BC screening (5-12)	5.	Women prefer relatives over ladu health visitors for getting training of breast self-examination, BSE	**No;** 79.2% (84)
	6.	The BSE helps in early detection of abnormal changes in breast	**Yes;** 86.9% (95)
	7.	Practice of BSE starts at the age of 40 years old	**No; 87.7% (93)**
	8.	The BSE is needed, monthly	**Yes;** 87.7% (93)
	9.	The best time for BSE is 10 days after start of period	**Yes;** 87.7% (93)
	10.	Clinical Breast-examination (CBE) is done using instrument free hands	**Yes; 85.8%** (91)
	11.	A woman can perform CBE herself	**No;** 84% (89)
	12.	A woman deserves mammography once in two years	**Yes;** 95.3% (101)

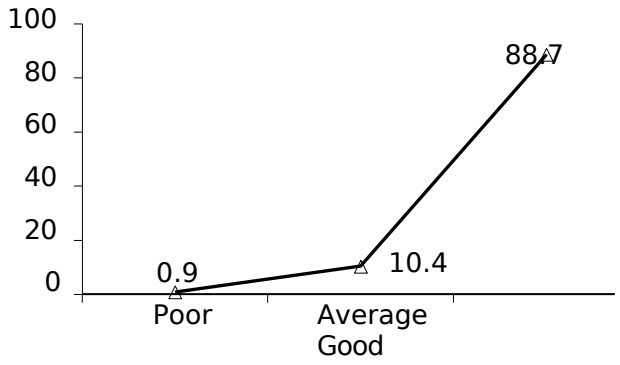
BC – breast cancer

Table II. Statistical association between rate of adequate knowledge on breast cancer

Sociodemographic variable; category	Rate of adequate knowledge on BC *%f* (*n*)	P value*
Biological age (years) 17-20 >20	 85.7% (42) 91.2% (52)	.37
Year of MBBS course 1-3 >3	 87.1% (54) 90.9% (40)	.76 (Fisher's Exact test)
Current residential area Rural Urban	 97.8% (44) 82.0% (50)	.01
Marital status Unmarried Married	 89.3% (92) 66.7 % (2)	.31 (Fisher's)
Family history of BC No Yes	 88.1% (89) 100% (5)	1.0% (Fisher's)

Sial Journal of Medical Sciences
ISSN Online: 2959-6939
ISSN Print: 2959-6920
Vol. 1, Issue 1, 2022

Figure - 1. Rate of sub levels of knowledge on breast cancer (n = 106)



DISCUSSION

Early detection of breast cancer minimizes the risk of painful morbidity whereas any late due to feminine sensitivity complicates it.[11,12] Female medical students with adequate knowledge on this detection play vital role in the community. To assess their knowledge, present research was necessitated. High response rate (i.e. 96.4%) on exclusion of two potential responders[13] in the questionnaire-derived study seems to support in quality and generalization of the findings. Rural background of more than 50% of the subjects advocates the medical education acquiring attitude in this segment of residents. Five students with family history of the cancer are supposed to have good knowledge on very domain because they are at high risk of this problem.[14,15]

Finding of good level of knowledge on early detection of BC (88.7% of 106) is very close to that of a previous similar study (79.7%)[16] on Ethiopian healthcare providers or higher than mean score, 24.8, equivalent to 67%; potential range: 12-36,[17] on Nigerian rural women. The high rate is indication of general trends in getting the knowledge prior to attitude and practice in the series of KAP. Furthermore, the rate of good sub level of the awareness is at adequate level as per scoring scheme, scores: 10-12 out of total 12, of another work assessing knowledge Zika virus disease among health professionals.[18] The better knowledge alternates with periodic accurate practice via psychological attitude.

Considering social media as the most suitable source of knowledge on breast cancer by a higher percentage of the respondents (99.1%, n = 105) marks the mass assess to this media. According to Plackett and associates,[16] social media improves awareness for early screening of BC. Similarly, knowledge on importance of mammography by most of the subjects is a good sign because such computer-aided imaging can help clinicians in decision-making for tumor management.[20] Better percentage frequency of correct knowledge on breast self-examination is 2nd by a study[21] highlighting increase in knowledge of medical students after lecture and activity. The main reason in decline of rate against clinical breast-examination, compared to breast self-examination, may include fear of cancer incidence[22] beside general avoidance attitude.

Compared to urban residents, the medical students from rural side browse the internet for longer time on account of lack of other recreational activities; hence, possess adequate knowledge with higher rate. Such, locality differential trend can also be seen in older adults with respect to internet-mediated depression reduction.[23] Increase in rate of adequate knowledge seems to follow the increasing tendencies of score against female students of a previous similar work[24] on cancer. No doubt, the canvas of intellect broadens with age. Knowledge of medical students also increases with increase in educational year of MBBS even between start and termination[25] of a particular year.

REFERENCES

1. Fumagalli C, Barberis M. Breast cancer heterogeneity. Diagnostics (Basel) 2021; 11(9):1555. doi: 10.3390/diagnostics11091555
2. Hanna TP, King WD, Thibodeau S, Jalink M, Paulin GA, Harvey-Jones E, et al. Mortality due to cancer treatment delay: systematic review and meta-analysis. BMJ 2020; 371:m4087.
3. Brunner M, Soll D, Adler K, Sasse A, König U, Mekolli A, et al. Brain metastases in gastroesophgeal cancers-an underestimated complication. Gastric Cancer 2022; 25(1): 161-169. doi: 10.1007/s10120-021-01219-z
4. Umbreen G, Jabeen C, Riaz MS. Breast self-examination (BSE); knowledge, attitude, and practice among post RN nursing students in Lahore. Professional Med J 2017;; 24(3):453-457. doi:10. 17957/ TPMJ/17.3745
5. Ngan TT, Nguyen NTQ, Van Minh H, et al. Effectiveness of clinical breast examination as a 'stand-alone' screening modality: an overview of systematic reviews. BMC Cancer 2020; 20:1070. https://doi.org/10.1186/s12885-020-07521-w
6. Neri E, Granata V, Montemezzi S, et al Structured reporting of x-ray mammography in the first diagnosis of breast cancer: a Delphi consensus proposal. Radiol med 2022; 127: 471–483. https://doi.org/10.1007/s11547-022-01478-5
7. Sarker R, Islam MS, Moonajilin MS, Rahman M, Gesesew HA, Ward PR. Knowledge of breast cancer and breast self-examination practices and its barriers among university female students in Bangladesh: Findings from a cross-sectional study. PLoS ONE 2022; 17(6): e0270417. https://doi.org/10.1371/journal.pone.0270417
8. Prusty RK, Begum S, Patil A, et al. Knowledge of symptoms and risk factors of breast cancer among women: a community based study in a low socio-economic area of Mumbai, India. BMC Women's Health 2020; 20: 106. https://doi.org/10.1186/s12905-020- 00967-x
9. Jakuboski SH, McDonald JA, Terry MB. Do current family history-based genetic testing guidelines contribute to breast cancer health inequities? Npj Breast Cancer 2022; 8: 36. https://doi.org/10.1038/s41523-022-00391-4
10. Omar A, Bakr A, Ibrahim N. Female medical students' awareness, attitudes, and knowledge about early detection of breast cancer in Syrian Private University, Syria. Heliyon 2020; 6(4):e03819. doi: 10.1016/j.heliyon.2020.e03819
11. Sharma H. How short or long should be a questionnaire for any research? Research dilemma in deciding the appropriate questionnaire length. Saudi J Anaesth 2022; 16(1): 65-68.
12. Liu L, Hao X, Song Z, et al. Correlation between family history and characteristics of breast cancer. Sci Rep 2021; 11: 6360.
13. Tesfaw A, Berihun H, Molla E, Mihret G, Feleke DG, Chanie ES, et al. Level of knowledge and practice of female healthcare providers about early detection methods of breast cancer at Debre Tabor Comprehensive Specialised Hospital: a cross-sectional study. Ecancermedical- science 2021; 15:1268.
14. Hassan SS, Sherazi S, Zunnoor SA, Shafique MN, Hussain M. Zika virus infection; knowledge among gynecologists and paediatricians. Professional Med J 2018; 25(8):1191-1198.

15. Oluwatosin OA, Oladepo O. Knowledge of bread cancer and its early detection measures among rural women in Akinyele Local Government Area, Ibadan, Nigeria. BMC Cancer 2006; 6:271.
16. Plackett R, Kaushal A, Kassianos AP, Cross A, Lewins D, Sheringham J, et al. Use of Social Media to Promote Cancer Screening and Early Diagnosis: Scoping Review. J Med Internet Res 2020; 22(11):e21582.
17. Milosevic M, Jankovic D, Milenkovic A, Stojanov D. Early diagnosis and detection of breast cancer. Technol Health Care 2018; 26(4):729-759.
18. Ranganath R, Muthusami J, Simon M, Mandal T, Kukkamulla MA. Female medical and nursing students' knowledge, attitudes, and skills regarding breast self-examination in Oman: a comparison between pre- and post-training. J Educ Eval Health Prof 2020; 17:37.
19. Alshahrani, M, Alhammam SYM, Al MunyifHAS, etal. Knowledge, attitudes, and practices of breast cancer screening methods among female patients in primary healthcare centers in Najran, Saudi Arabia. J Canc Educ 2019; 34:1167–1172.
20. Sun K, Zhao YC, Tao X, Zhou J, Liu Q. Examining urban-rural differences in the impact of Internet use on older adults' depression: evidence from China. Data Sci Manage 2022; 5(1): 13-20.
21. Zhang QN, Lu HX. Knowledge, attitude, practice and factors that influence the awareness of college students with regards to breast cancer. World J Clin Cases 2022; 10(2):538-546.
22. Verhoeven BH, VerwijnenGM, Scherpbier AJJA, Van der Vleuten C. Growth of medical Growth. Med Edu 2022; 36(8):711-717.
23. Majeed AI, Hafeez A, Khan SA. Strengthening breast cancer screening mammography services in Pakistan using Islamabad capital territory as a pilot public health intervention. Healthcare 2022; 10:1106.
24. Saeed S, Asim M, Sohail MM. Fears and barriers: problems in breast cancer diagnosis and treatment in Pakistan. BMC Women's Health 2021; 21:151.
25. Hussain I, Majeed A, Masood I, Ashraf W, Imran I, Saeed H, et al. A National survey to assess breast cancer awareness among the female university students of Pakistan. PLoS ONE 2022; 17(1):e0262030.