Original Article

Knowledge, Practice and Attitude Analysis for Breast Cancer Awareness & Prevention Among Pakistani Women A Cross-Sectional Study

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Abstract

Objective: Breast cancer is a fundamental public health concern showing alarming increase in Pakistan owing to poor disease management. The current study aimed to analyze Knowledge, Attitude and Practice (KAP) regarding breast cancer among Pakistani women.

Methodology: Descriptive cross-sectional study conducted in Pakistan Institute of Medical Sciences, for a period of 3 months. A questionnaire was designed and participants were interviewed according to it in MCH Department, PIMS to assess regarding awareness of disease and role of mammography, clinical breast examination (CBE) and breast self-examination (BSE) in its prevention. Non-Probability consecutive sampling technique was used. All women coming to gynecology department and willing to participate in study were included.

Results: Total 1000 women participated in study. Mean age of study population was33.68±11.9 years. Regarding Breast cancer awareness, despite 75 %(n=750) of the women knowing the name of disease, only 32% had proper awareness regarding disease process, purpose of mammography and breast cancer prevention. Only 19.6% (n=196) among them had undergone mammographic screening. Majority (788, 78.8%) of the patients did not even know the right age of mammography. When questioned regarding reason for not having mammogram majority of females answered their physician didn't prescribed it. A small fraction (n=287, 28.7%) of the participants had knowledge regarding BSE who also claimed to perform BSE however only 180 of them performed it properly. Only 30.3% (n=303) women were aware of CBE.

Conslusion: KAP regarding breast cancer prevention was too low. Only 1/3rd of the respondents were knowledgeable about mammographic screening for breast cancer prevention. Hence, training programs to keep women informed about breast cancer screening knowledge and practices are needed to augment quality of public health in breast cancer affected women of Pakistan.

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Introduction

Breast cancer is a fundamental public health concern increasing cancer related morbidities as well as mortalities across the globe. An alarming increase in breast cancer incidence and prevalence has been discerned from both developing and developed countries, therefore, posing a significant health risk for women, worldwide.[1] The higher mortalities are ascribed to late detection of, otherwise, manageable breast cancer.[2] Owing to scarcity in literature pertinent to breast cancer and lack of national cancer registry, there is limited information available on the disease prevalence across various regions of Pakistan. However, as communicated through a few research studies, one in every nine women in Pakistan is diagnosed with breast cancer.[3]

Breast cancer is a multifactorial disease presented with multitude of demographic as well as clinico-pathological characteristics that influence disease prognosis, diagnosis and treatment.[4] The risk factors associated with the disease entail familial history, genetic mutations,

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increased age, dense breast, hormonal therapy, early menarche, nulliparity, late menopause and/or obesity.[5]

In an attempt to mitigate breast cancer related complications and mortality, it is imperative to have adequate knowledge concerning the disease's signs and symptoms as well as its early detection by means of clinical breast examination(CBE), breast self-examination (BSE)and mammogram.[6]

Survival of women diagnosed with breast cancer on screening mammography is around 97%. ACR recommends annual screening mammography for every lady above 40 years of age and above 30 for higher risk group. Screening via breast self-examination and clinical breast examination is an alternative approach to diagnose breast cancer in young ladies. [7]

In west the mortality rate is around 5 to 15% attributed to effective screening program. While in east especially in South Asia, mortality rate reaches up to 40%.[8] In low-middle income countries (LMICs), patients are usually diagnosed at late stage due to lack of screening practices. Many factors contribute to poor screening practices in these countries which includes, poor infrastructure, lack of government level screening program, lack of awareness among women, social taboos and misconceptions related to disease and its prevention. [9]

Several cross-sectional studies on Knowledge Attitude and Practice (KAP) of breast cancer have been carried out across various regions of the world and varying responses in attitude, knowledge of breast cancer screening methods and practice have been recorded.[10-11]

Nevertheless, no such studies on the knowledge, awareness and practice (KAPS) attributes for initial breast cancer screening have been conducted in Pakistan, so far. To serve the purpose, the current study was aimed to analyze knowledge, awareness and practice (KAPS) of breast cancer examination among female patients of Pakistan. The information obtained could be of immense help in initiating interventions to address the gaps in KAP of patients towards breast cancer early detection. Consequently, it is anticipated that improvement in patient's KAP would be contributing significantly in education of women of Pakistan for early detection of breast cancer and the associated risk factors with subsequent decline in breast cancer related morbidity and mortality rates.

Methodology

Approval from institutional ethical review board committee was acquired for this study. In addition to that, a verbally informed voluntary consent was acquired from the participants of the study prior to filling the questionnaire.

The current analysis corresponds to a descriptive cross-sectional study. Survey for KAP analysis was conducted from October, 2019 to December 2019. A questionnaire was designed and participants were interviewed according to it in MCH (mother children hospital) Department, PIMS (Pakistan Institute of Medical Sciences) to assess the awareness of disease, role of mammography, clinical breast examination (CBE) and breast self-examination (BSE) and prevention. Non-Probability consecutive sampling technique was used. All women coming to gynecology department and willing to participate in study were included. Total 1000 women participated in study. A quantitative research methodology has been opted in this study that largely comprised of interviews and questionnaire administration by qualified medical professionals.

The knowledge of the study participants in regard to breast cancer and its prevention was analyzed on the basis of degree of information, the subjects had about breast cancer and role of BSE, CBE and mammography in its prevention. The responses, thus acquired, were deciphered into "0" or "1" categories with the former class of subjects with inadequate or no knowledge while the latter demonstrated the group of subjects with prior knowledge about the disease. Moreover, the correct answers were summed up to calculate the percentage of knowledge for each of the variable studied in the selected population. Furthermore, the attitude component of the analysis was performed by asking the participants' opinion about method and frequency of BSE, CBE and mammography in prevention of breast cancer. Lastly, the third aspect of the analysis i.e. practice was evaluated as to what and how much participants actually practice BSE, CBE and mammography. The data, thus obtained, was statistically analyzed using SPSS v25 software. Descriptive statistics were performed on qualitative data, dispersion in data was analyzed via mean and standard deviation measurement, Fisher Exact Test was applied to check statistically significant association. P-value of less than 0.05 was taken significant.

Results

The mean age of the women who took part in the study was calculated to be 34±12 years. Most of them were found to be negative (n=849, 84.9%) for familial history of disease. Among the women with positive familial history, 35% had either a mother or maternal relative affected with the disease.

Most of the females (n=931, 93.1%) were married. Education status of women showed that majority (n=301, 30.1%) of the patients were matric pass followed by graduates.

Regarding Breast cancer awareness, despite 75% (n=750) of the women knew the name of disease, only 32% had proper awareness regarding disease process, purpose of mammography and breast cancer prevention. Majority (788, 78.8%) of the patients did not know the right age of mammography. Media was the most common (n=312, 32%) source of knowledge regarding breast cancer among women followed by books and hospital. Fisher Exact Test showed association between education (P<0.004), positive family history (P<0.001) and breast cancer awareness while no relationship was found between marital status (P=1.00) and breast cancer awareness.

When ladies having awareness were asked about performing mammography, only 242 ladies had mammography. When questioned regarding reason for not having mammogram, majority of females answered their physician didn't prescribed it followed by considering their age not fit for mammography, shyness and financial issues (Figure-1).

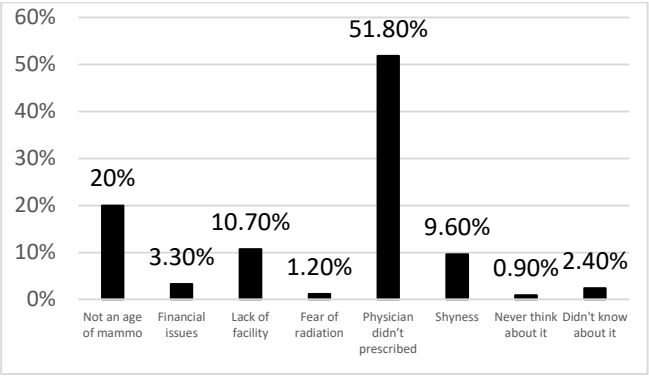

Figure 1. Reason for not having Mammogram.

Only positive family history (P<0.006) was found to be a factor influencing awareness regarding mammography.

Upon being questioned about PIMS free mammographic screening services, 48.8% of the women (n=488) had knowledge about the facility. Of these, 397 women (i.e. 39.7%) were informed by their physicians at PIMS. Unfortunately, 43.6% participants (n=436) had no clue about these services being provided.

Demographic characteristics of the women having breast cancer awareness and mammography are depicted in Table-I & Table-II.

Table I: Demographics of patients having Breast Cancer Awareness

Parameters	Breast cancer awareness		
	Grand Total	yes	no
Grand Total	1000	753	247
Age with mean	33.68±11.59		
Marital Status			
Married	931	701	230
Unmarried	69	52	17
Education			
Doctorate	2	1	1
Graduate	265	228	37
Intermediate	2	1	1
Matric	301	214	87
Post Graduate	96	87	9
Primary	139	91	48
Uneducated	195	131	64
Family History			
No	849	621	228
Yes	151	132	19
If_Yes, Relative			
Mother	28	22	6
Sister	19	17	2
Cousin	36	30	6
Relative	30	26	4
Other	59	55	4
N/A	809	589	220
No	19	14	5

Table II: Demographics of patients having awareness of Mammography.

Parameters	Awareness of Mammography		
	Grand Total	yes	no
Grand Total	1000	320	680
Age with mean	33.68±11.59		
Marital Status			
Married	931	293	638
Unmarried	69	27	42
Family History			
Doctorate	2	1	1
Graduate	265	75	190
Intermediate	2	0	2
Matric	301	84	217
Post-graduate	96	36	60
Primary	139	65	74
Uneducated	195	59	136
Family History			
No	849	253	596
Yes	151	67	84
Perform Mammo			
No	876	196	680
Yes	124	124	0

Pertinent to Breast Self-Examination (BSE), only a small fraction (n=287, 28.7%) of the participating women having knowledge regarding BSE claimed to perform the

examination. When asked about proper way of BSE, only 180 women had knowledge and were sufficiently informed. Of these, 59% of the women (n=106) were taught about the procedure by health care professionals (Figure-2).

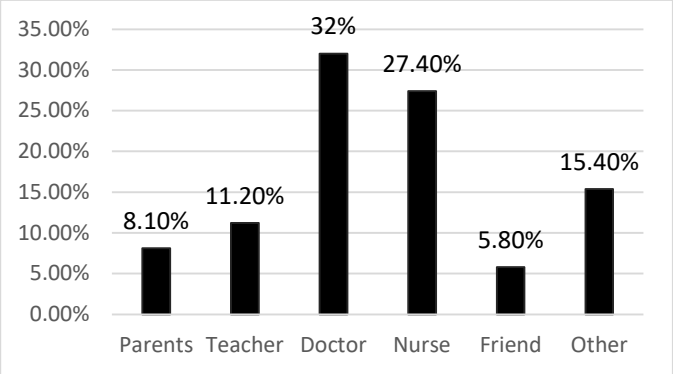

Figure 2. Individual who taught how to perform BSE.

Table III: Demographics of patients having awareness of Breast Self-Examination.

Parameters	Awareness of breast self-examination (BSE)		
	Grand Total	**Yes**	**no**
Grand Total	1000	287	713
Age	33.68±11.59		
Marital status			
Married	931	260	671
Unmarried	69	27	42
Education			
Uneducated	195	44	151
Primary	139	41	98
Matric	301	77	224
Intermediate	2	0	2
Graduate	265	93	172
Post-graduate	96	32	64
Doctorate	2	0	2
Family history			
No	849	216	633
Yes	151	71	80
Way of BSE			
No	819	130	713
Yes	181	181	0
BSE trained by			
Doctor	44	44	0
Friend	7	7	0
No training	843	130	713
Nurse	47	47	0
Other	28	28	0
Parents	11	11	0
Teacher	20	20	0
Perform BSE			
No	713	99	614
Yes	184	188	0

More than 700 (i.e. >70%) of the study subjects did not have a slight hint about BSE and were never taught by anyone. In regard to frequency of BSE, only a few i.e. n=25 (2.5%) of the participants used to perform the self-examination on a weekly basis, whereas, 59.2% of the study population performed the procedure on not so frequent basis. Almost 17.4% and 5.9% of the women examined themselves occasionally and monthly, respectively. The comprehensive description of the relationship between BSE and the demographic details of the study subjects has been provided in Table III.

Educational status (P<0.03), Marital status (P=0.05) and positive family history (P<0.0001) were found to influence performance of breast self-examination. The 30.3% (n=303) females of study population were aware of Clinical Breast Examination (CBE).

Discussion

In the current study, it has been revealed that awareness and knowledge about early breast cancer screening and breast cancer detection methods among Pakistani women is limited. To the best of our knowledge, this is the first study to address patients' understanding and knowledge in regard to breast cancer in Pakistani population. It has been observed that majority of the study subjects i.e. 75% had heard about breast cancer, however, only 32% were aware of the usefulness of mammography or BSE in regard to breast cancer prevention. These findings are in agreement with the results reported explicitly for Zimbabwe[11], Mongolia[8], Nigeria[12] and Yemen.[13] Comparably, greater than 70% of the Iranian women were aware of the significance of early breast cancer detection and the signs and symptoms associated with the disease.[14] Media, however, was recorded as the primary source of information followed by books and hospitals. Hence, the alarming increase in breast cancer related mortalities can be attributed to lack of knowledge among the Pakistani women.

While assessing the demographic characteristics of the study population, 93% of the women were found to have no family history while those having positive family history, the route of inheritance were through the maternal lineage. These findings are consistent with the reports published for Kuwaiti women[15] and Egyptian population.[9] The findings of the current study are in contrast with a Nigerian study that showed a relatively higher percentage of respondents being positive for BRCA1/2.[16] Since the sampling was focused at gynecology department, most of the respondents were

married. Furthermore, the extent of knowledge about breast cancer was higher in educated women parallel to studies on Saudi Arabian and Egyptian women.[9,17] Thus, it can be stated that education is one of the chief determinants of awareness about breast cancer detection as well as prevention.

In the context of Breast Self-Examination (BSE), only a small fraction of the participating women had knowledge regarding BSE who claimed to perform the examination. Of these, only 18% of the women were adequately equipped with information on the subject matter of BSE for early breast cancer detection. These findings are in consistency with a study on Iranian population 30% women having knowledge about BSE were educated too.[14] On the contrary, a report on Iraqi population observed 69.1% of the female respondents to have heard about BSE, of which, 57.4% women had actually practiced this method of screening.[18]

A crucial attribute of breast cancer related healthcare revolves around the knowledge and understanding about the usefulness of mammographic screening as a preventive measure for breast cancer. Attitudes and practices of the women in this context must be recorded to attain a clear picture about health behaviors of the public. In this concern, it was revealed that only 30% of the participating individuals were aware of breast cancer assessment using mammography. The lack of awareness, however, was reasoned to involve physicians for not recommending the test. Additionally, a larger part of the female respondents did not have any idea pertaining to the right age for mammography.

These findings are in-line with a report on Saudi Arabian population where the utility of mammography was also low and the women were knowledgeable only to a limited extent.[17] Yet another study on breast cancer screening in Indonesian women showed that the women had a reasonably good understanding of mammography, nonetheless, its usefulness was hampered due to lack of insistence and increased cost.[19] Moreover, a German study communicated that higher number of educated women were considerate about pros and cons of mammography in contrast to our observations.[20]

One of the limitations of our study lying in difference in responses and practices is similar to the all other KAP studies. The responses of study participants may differ from actual practice, particularly in attitude related questions assuming which practice is considered correct. Secondly the data is acquired within the hospital premises, which gives overestimated values for breast cancer related awareness in general population.

Conclusion

Overall, the health literacy level in regard to breast cancer awareness was discerned to be relatively low in Pakistani women, as suggested by the KAPS survey analysis. Hence, training programs to keep women informed about breast cancer screening knowledge and practices are needed to augment quality of public health in breast cancer affected women of Pakistan. This could be effectively done by involving health practitioners for prescribing the screening tests. It is, therefore, proposed to synergize and integrate disease-specific interventions with strategic health-system in order to achieve better health outcomes.

References

1. DeSantis CE, Ma J, Gaudet MM, et al. Breast cancer statistics, 2019. *CA Cancer J Clin*. 2019;69(6):438-451. doi:10.3322/caac.21583
2. Bleyer A, Welch HG. Effect of Three Decades of Screening Mammography on Breast-Cancer Incidence. *N Engl J Med*. 2012;367(21):1998-2005. doi:10.1056/NEJMoa1206809
3. Naz N, Khanum S, Dal Sasso GTM, de Souza M de L. Women's Views on Handling and Managing Their Breast Cancer in Pakistan: A Qualitative Study. *Dis (Basel, Switzerland)*. 2016;4(2):17. doi:10.3390/diseases4020017
4. Russnes HG, Lingjærde OC, Børresen-Dale AL, Caldas C. Breast Cancer Molecular Stratification: From Intrinsic Subtypes to Integrative Clusters. *Am J Pathol*. 2017;187(10):2152-2162. doi:10.1016/j.ajpath.2017.04.022
5. Kamińska M, Ciszewski T, Łopacka-Szatan K, Miotła P, Starosławska E. Breast cancer risk factors. *Prz Menopauzalny*. 2015;14(3):196-202. doi:10.5114/pm.2015.54346
6. Marmot MG, Altman DG, Cameron DA, Dewar JA, Thompson SG, Wilcox M. The benefits and harms of breast cancer screening: An independent review. *Br J Cancer*. 2013;108(11):2205-2240. doi:10.1038/bjc.2013.177
7. Kösters JP, Gøtzsche PC. Regular self-examination or clinical examination for early detection of breast cancer. *Cochrane Database Syst Rev*. 2003;2003(2). doi:10.1002/14651858.cd003373
8. Tfayli A, Temraz S, Abou Mrad R, Shamseddine A. Breast cancer in low-and middle-income countries: an emerging and challenging epidemic. *Journal of oncology. 2010 Dec 15;2010.*
9. Ifediora, C.O. Re-thinking breast and cervical cancer preventive campaigns in developing countries: the case for interventions at high schools. BMC Public Health 19, 503 (2019). https://doi.org/10.1186/s12889-019-6890-2
10. Andegiorgish AK, Kidane EA, Gebrezgi MT. Knowledge, attitude, and practice of breast Cancer among nurses in hospitals in Asmara, Eritrea. *BMC Nurs*. 2018;17(1). doi:10.1186/s12912-018-0300-4
11. Makurirofa L, Mangwiro P, James V, et al. Women's knowledge,

attitudes and practices (KAP) relating to breast and cervical cancers in rural Zimbabwe: A cross sectional study in Mudzi District, Mashonaland East Province. *BMC Public Health*. 2019;19(1):109. doi:10.1186/s12889-018-6333-5

12. Okobia MN, Bunker CH, Okonofua FE, Osime U. Knowledge, attitude and practice of Nigerian women towards breast cancer: A cross-sectional study. *World J Surg Oncol*. 2006;4:11. doi:10.1186/1477-7819-4-11
13. *Awareness and Practice of Breast Cancer and Breast-Self Examination among University Students in Yemen*. Vol 11. West Asia Organization for Cancer Prevention (WAOCP); 2010. http://journal.waocp.org/article_25125.html. Accessed September 22, 2020.
14. Nafissi N, Saghafinia M, Motamedi MHK, Akbari ME. A survey of breast cancer knowledge and attitude in Iranian women. *J Cancer Res Ther*. 2012;8(1):46-49. doi:10.4103/0973-1482.95173
15. Alharbi NA, Alshammari MS, Almutairi BM, Makboul G, El-Shazly MK. Knowledge, awareness, and practices concerning breast cancer among Kuwaiti female school teachers. *Alexandria J Med*. 2012;48(1):75-82. doi:10.1016/j.ajme.2011.10.003
16. Adelekan AL, Ronami Edoni E. *Awareness, Knowledge and Practices of Breast Cancer Prevention among Women with Family History of Breast Cancer in Ede, Osun State, Nigeria*. Vol 2. www.iosrjournals.org. Accessed September 11, 2020.
17. Al-Wassia RK, Farsi NJ, Merdad LA, Haj S. Patterns, knowledge and barriers of mammography use among women in Saudi Arabia. *Saudi Med J*. 2017;38(9):913-921. doi:10.15537/smj.2017.9.20842
18. Alwan NAS, Al-Diwan JKA, Al-Attar WM, Eliessa RA. Knowledge, attitude & practice towards breast cancer & breast self examination in Kirkuk University, Iraq. *Asian Pacific J Reprod*. 2012;1(4):308-311. doi:10.1016/S2305-0500(13)60098-6
19. Choridah L, Icanervilia AV, de Wit MJM, et al. Knowledge and Acceptance Towards Mammography as Breast Cancer Screening Tool Among Yogyakarta Women and Health Care Providers (Mammography Screening in Indonesia). *J Cancer Educ*. 2019. doi:10.1007/s13187-019-01659-3
20. Berens E-M, Kaucher S, van Eckert S, Reder M, Kolip P, Spallek J. Knowledge about mammography screening in Germany by education and migrant status – results of a cross-sectional study (InEMa). *Appl Cancer Res*. 2019;39(1):6. doi:10.1186/s41241-019-0076-1