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Shiyam Kumar
Aga Khan University

Ayesha Mallick Imam
Aga Khan University

Nauman Fazal Manzoor
Aga Khan University

Nehal Masood
Aga Khan University

Original Article

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Shiyam Kumar,[1] Ayesha Mallick Imam,[2] Nauman Fazal Manzoor,[3] Nehal Masood[4]
Section of Hematology/Oncology, Department of Medicine,[1,4] Medical Student,[2,3] The Aga Khan University, Karachi.

Abstract

Objective: To assess the knowledge and practice of risk factors, symptoms and screening for breast cancer among health care professionals.

Methods: A cross sectional study was carried out at The Aga Khan University Hospital from January 2008 to March 2008. A total of 336 health care workers including consultants (48), fellows (17), residents (76), medical officers (14), interns (37), nurses (94) and fourth and final year medical students (50) were requested to fill a questionnaire designed to assess the knowledge about the risk factors, signs and symptoms, screening tools, breast self examination (BSE) and treatment.

Results: More than two third participants had good knowledge about the risk factors and signs of breast cancer except some dissociation regarding association of menarche status and smoking. Majority was aware of the benefits of mammography. More than 80% had the consensus that breast cancer is curable if detected early and more than 50% thought that a surgeon should be consulted first if lump is palpable.

Conclusions: This study reveals that health care professionals have fairly good awareness regarding the risk factors, symptoms and role of mammography. But some are still deficient in their knowledge regarding screening modalities and BSE method and time and role of chemotherapy. And this can be improved with further education (JPMA 59:474; 2009).

Introduction

Breast cancer is the most common malignancy causing deaths and cancer related morbidity in women. It is a disease affecting both the developed and the developing nations.[1] Women in Pakistan are not an exception to this,[2,3] in fact the incidence of breast cancer in Pakistani women is higher than in women from neighbouring countries. One in every nine females is affected with this disease. Dietary or genetic factors may both be implicated. It has also been found that Pakistani women present with metastases at a younger age as compared to western women and the disease is more aggressive.[3]

Numerous risk factors are associated with breast cancer. One major risk factor is increasing age. Among the factors that increase the risk of breast cancer the most important ones include both a personal or a family history of breast cancer and some specific genetic mutations and hyperplasia that have been confirmed on biopsy.[1] Other factors that augment the risks of developing breast cancer are: an early menarche and late menopause, obesity after menopause, use of iatrogenic hormones (both oral contraceptives and postmenopausal hormone therapy have been implicated), nulliparity or 'having the first child after the age of 30', certain ethnic features, radiation, or intake of alcohol on a daily basis.[1,4]

The best prognosis for long term survival is through early recognition followed by timely treatment.[5] Breast self examination (BSE), clinical breast examination (CBE) and mammogram are used as screening methods for detecting breast cancer earlier on in its course.[6] Among these, annual mammography is believed to be the most useful method in identifying breast cancer in its most initial possible stage, where it would still be a localized growth and therefore most responsive to the treatment . Regular use of mammography as a screening modality has led to a reduction in breast cancer mortalities. However, proper utilization of this and other screening tools needs awareness and education of the masses and access to health care system. Developing countries like ours lag behind in both.[1,7]

Lack of awareness, amongst most women, regarding common presenting symptoms or breast cancer risk factors translate to poor breast cancer screening practices.[8-10] Several studies have shown that increasing women's awareness of breast cancer lessens the obstacles to diagnosis and treatment.[11,12]

Healthcare professionals are a direct source of information for the patients and for the general public at large and since they hold such a pivotal role it is imperative that the information they convey is accurate and helps in building additional awareness. Hence the healthcare workforce of The Aga Khan University and Hospital, a tertiary care centre, was chosen as the target population of this study. The aim of this study was to ascertain the level of knowledge of health care professionals including medical students (who have rotated through oncology) regarding risk factors, symptoms, screening methods and practice of BSE, role of surgery and chemotherapy and radiation therapy in the treatment of breast cancer.

Subjects and Methods

This cross-sectional study was carried out at The Aga Khan University Hospital Karachi from January 2008 to March 2008. The target population was selected using convenience sampling. The desired information was drawn from a self-administered questionnaire which was distributed to the consultants, residents, interns, nurses and medical students (4th year and final year) at AKUH.

Since no prior international standardized questionnaire on breast cancer knowledge was available, the authors made one with questions based on common general knowledge and local beliefs regarding breast cancer. The first part was on the respondents' qualification and working experience. In the second part the questions which would reflect the respondents' knowledge about risk factors, symptomology, screening tools and treatment modalities of breast cancer. The third part of the questionnaire was directed towards female respondents' own practices regarding screening, specifically BSE. The questionnaire was distributed in person, informed consent was obtained, an immediate response was requested for and the questionnaires collected back. Total of 341 subjects from 350 returned the questionnaire with different percentage of response to different questions. SPSS version 15 was used to then analyze the data.

Results

There were a total of 341 questionnaires that were analyzed. Forty percent (n=109) of the respondents were male and 60% (n=232) were female. The characteristics and percentages of respondents are shown in Figure. There were a

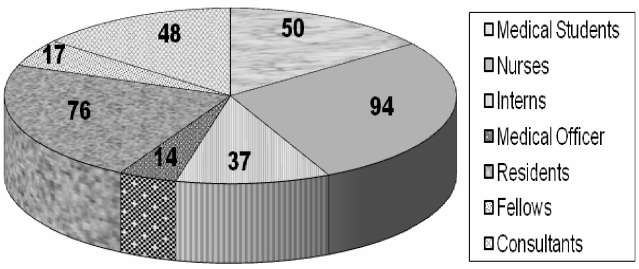

Figure: Number of health care professionals.

greater number of nurses (28%) and residents (23%) who responded as compared to the others.

Of all the nurses interviewed, 46% had done General Nursing Diploma, 38% had a BScN degree, 3% had acquired a MScN degree and 15% were staff add-ons. Among the fellows (n=17) interviewed 12 had done their FCPS and 2 had done their MRCP. Of the 48 consultants who responded, 52% were FCPS, 21% had their MRCP/FRCP/MRCOG degree and the remaining 27% were Diplomats from the American board.

Questions pertaining to knowledge about the different aspects of breast cancer were asked and responses included 'Yes', 'No' or 'Not Sure'.

No significant differences were observed amongst the

male and female respondents or marital status or work experience.

Knowledge about risk factors:

Seventy-four percent of the respondents said yes to 'increasing age' as a risk factor. Ninety-three percent of the medical officers said yes as compared to 86% of medical students, 62% of nurses and 69% of consultants.

It was encouraging to note that 96% of the sample said a positive family history was a risk factor for development of breast cancer. Only 64% thought early menarche to be a risk factor, similarly 68% thought late menopause was a risk factor. Ninety four percent of the students believed nulliparity was a risk factor but on the whole 73% of the respondents were of this opinion. About a third (37%) were not aware that obesity was a risk factor. Oral Contraceptives were believed to increase the risk of breast cancer by 61% of the respondents. A personal history of breast cancer was held as a risk factor by 95% of the sample. Fifty eight percent of the respondents thought smoking could increase the risk of breast cancer. A significantly greater proportion of students knew about most risk factors compared to the rest of the sample (Table-1).

Knowledge about presenting symptoms:

Knowledge about the presenting symptoms of breast cancer was good as majority of the sample was aware of the four cardinal signs of breast cancer namely; Lump (95%), Disparity in size (85%), Discharge (87%) and Ulcer (79%). Seventy one percent believed pain to be a symptom.

Knowledge about screening methods:

With regards to the screening methods most of the respondents knew about BSE (92%) and mammograms (96%) as screening tools however, majority were unaware of the importance of ultrasound (56%) and MRI (71%) as modes of screening. Eighty seven percent agreed that a screening mammogram is necessary after the age of 40. Majority (92%) of the respondents believed breast cancer to be curable if detected early (Table-2).

Knowledge and attitude about treatment:

Ninety five percent of the respondents were in favour of a double or triple modality treatment rather than a single modality approach. However almost three quarters of the sample believed that chemotherapy can prolong life in cases of metastatic cancer. When asked about whom to consult first in the event of finding a breast lump, 81% opted for a breast surgeon rather than an oncologist.

Breast self examination (BSE):

There was a separate section on BSE for the female respondents. While 92% agreed that BSE is useful in early

Table-1: Knowledge of health care professionals regarding risk factors for breast cancer.

Risk Factors		Medical Student	Nurse	Intern	Medical Officer	Resident	Fellow	Consultant
Increasing age	Yes	43	58	26	13	57	11	33
	No	3	21	9	1	15	4	9
	Not Sure	2	15	1	0	1	1	6
Family history	Yes	50	80	37	14	72	17	44
	No	0	10	0	0	2	0	2
	Not Sure	0	4	0	0	1	0	2
Early menarche	Yes	45	43	24	10	46	10	27
	No	3	24	7	2	18	4	8
	Not Sure	2	27	4	2	10	3	13
Late menopause	Yes	48	45	28	11	42	10	31
	No	1	27	7	2	22	4	7
	Not Sure	1	21	2	1	10	3	10
Nulliparity	Yes	47	42	29	11	58	12	34
	No	2	19	5	2	12	1	7
	Not Sure	1	29	2	1	5	4	7
Obesity	Yes	39	40	24	11	45	10	28
	No	9	26	12	3	16	4	13
	Not Sure	2	25	1	0	12	2	6
OCPs*	Yes	33	51	18	7	57	9	38
	No	14	25	14	6	15	5	6
	Not Sure	1	17	4	1	3	2	3
History for breast cancer	Yes	50	84	37	13	69	16	46
	No	0	5	0	1	4	1	2
	Not Sure	0	6	0	0	1	0	0
Smoking	Yes	35	44	17	9	43	11	28
	No	11	28	13	3	23	3	10
	Not Sure	3	23	7	2	9	3	10

OCPs* = Oral contraceptive pills.

Table-2: Knowledge of health care professionals regarding screening tools for breast cancer.

		Mammogram	Ultrasound	MRI*	BSE+
Medical Students	Yes	40	15	10	35
	No	0	21	20	4
	Not Sure	0	2	4	1
Nurses	Yes	81	43	36	80
	No	1	25	23	3
	Not Sure	5	16	24	3
Interns	Yes	32	11	7	32
	No	2	20	24	2
	Not Sure	0	3	3	0
Medical Officers	Yes	13	6	1	14
	No	1	6	9	0
	Not Sure	0	2	2	0
Residents	Yes	64	31	11	54
	No	2	22	32	3
	Not Sure	0	5	11	4
Fellows	Yes	14	6	5	15
	No	1	6	7	0
	Not Sure	0	2	1	0
Consultants	Yes	45	12	7	40
	No	0	24	25	4
	Not Sure	0	1	4	0

MRI* = Magnetic resonance imaging, BSE+ = Breast self examination.

detection of breast cancer only 78% thought it should be done every month. There wasn't a consensus as to what time is optimum for it. Half of the female respondents were of the opinion that it should be done a week after menses, 40% said it should be performed just after menses and the remaining said just before menses. Also only 73% knew that the opposite hand is used to carry out a BSE. Self practice of BSE was found to be limited as only a third of the female respondents reported it.

Discussion

Breast cancer is the most common type of cancer and the most common cause of cancer-related mortality among women worldwide.[13] The burden, however, is not equally distributed as the burden of breast cancer is growing in the developing world while declining in the West.[2,3,14,15] The incidence in our country is on the rise as well. Healthcare providers not only play an important role in treating patients but are also responsible for improving patient behaviours and screening, as yearly mammography and clinical breast exam is the single most important step that clinicians can take to reduce suffering and death from breast cancer.[16]

Our results regarding knowledge about most of the risk factors are quite satisfactory. A third, however, was not aware of obesity as a possible risk factor. Knowledge about the symptoms was acceptable except that most respondents (71%) were unaware of the fact that breast pain usually denotes a benign underlying pathology rather than breast cancer, which mostly presents as a painless lump. Most of the sample knew about BSE and mammography as screening tools but not about US and MRI. Although majority knew about the importance of BSE, this was not evident from their attitude as overall practice of BSE was a dismal 32%. Knowledge about treatment of breast cancer was adequate as majority were not in favour of a single modality approach.

Local data on the subject is limited as there are only two other studies that could be cited, namely; a KAP on Breast cancer by Parvez et al.[17] carried out amongst female nurses and physicians of Services hospital Lahore and a KAP by Jaffary A[18] regarding breast cancer screening in women of various social strata. Comparing our results with the study by Parvez et al[17] we found that the level of knowledge is comparable but the practice of BSE was higher in our sample (66% amongst nurses as compared to their 5%; 46% amongst female physicians as compared to their 25%).

The practice of BSE was better in our sample when compared to the study by Mahmoodi et al[19] done in Tehran, but was very low in comparison to the level found in Singapore (66% vs. 94%) in the study on knowledge and perception of breast cancer screening amongst public health nurses by PN Chong.[20] The level of knowledge, however, was similar.

The role and usefulness of BSE in detecting breast cancer at early stage is controversial as there are studies favouring it and there are those negating its importance. The American Cancer Society (ACS) no longer recommends monthly BSE as it increases anxiety, proportion of breast biopsies, biopsies for benign lesions and does not improve overall survival.[19,21-23] However a meta-analysis of studies investigating the possible benefits of BSE has shown that regular practice increases the probability of detecting breast cancer at an early stage.[24] Hence BSE should be continued as a screening tool as it makes the women more 'breast aware' and so may help in early diagnosis.[25]

Our results on ultrasound and MRI for screening can be explained by the fact that although both are useful tools, neither is recommended, as yet, as screening modalities. An ultrasound is considered useful in assessing a lesion seen on mammography and commenting on its malignant potential; a screening MRI is deemed superior to a mammogram in high risk populations.[21]

No statistically significant differences were obtained with regards to sex or marital status. Clinical experience did not seem to influence knowledge or practice. The significant difference found in knowledge between students and the rest of the sample regarding most risk factors could be attributed to the fact that they had been taught about it recently. This in turn emphasizes the importance of continuous medical education for all healthcare professionals customized to their level, for it is essential for them to be abreast with information about important medical issues especially due to their roles as public educators.

Conclusion

Our study shows that health care providers at our institute are well aware of the risk factors, signs and screening modalities for breast cancer. Discrepancy was observed regarding the suitable time for BSE while majority of female participants were not practicing BSE despite being aware of the fact that multimodality approach (surgery, chemotherapy and radiation therapy) is the key to success in treatment of breast cancer.

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