Research Article

Knowledge, attitude, and practice regarding breast cancer and its screening methods among nursing staff working in a tertiary-care hospital located in South India

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Received December 6, 2015. Accepted December 10, 2015

Abstract

Background: Role of health personnel in educating the people regarding screening tests of breast cancer is very important to detect cancer at an early stage to prevent the morbidity and mortality.

Objective: To assess the knowledge, attitude, and practices (KAP) regarding the breast cancer and its screening methods among staff nurses.

Materials and Methods: This cross-sectional study was conducted in a tertiary-care hospital in Puducherry. A total of 198 staff nurses were interviewed using a structured questionnaire, which consisted of questions ascertaining the KAP regarding the epidemiology, diagnosis, and treatment of breast cancer and its screening tests [breast self-examination (BSE), clinical breast examination (CBE), and mammography]. Data analysis was done using SPSS software. Frequency and proportions were calculated.

Result: Most of the staff nurses were female subjects (97%) and had less than 5 years of working experience (86.7%). Family history (40.9%), inadequate breast feeding (29.8%), and lifestyle factors (24.7%) were important risk factors of breast cancer as per participants. About 36.9% mentioned biopsy as a diagnostic test; 73.2% mentioned BSE as a screening test; 67.5% were practicing BSE, but only 5.5% were practicing it regularly. Only 11.6% mentioned CBE as a screening test, and 10.8% had undergone CBE only once. About 18.7% mentioned mammography as a screening test.

Conclusion: The knowledge and practice of staff nurses regarding screening tests was low. Staff nurses should undergo continuing medical education to revise and update their knowledge; in turn they can educate the community.

KEY WORDS: Knowledge, attitude, and practice, breast cancer, screening tests, nurses

Introduction

Cancer is one of the leading causes of mortality among adults all over the world. Worldwide, it was estimated that 12.7 million new cancer cases and 7.6 million cancer deaths had occurred in 2008.[1] Breast cancer is the second most commonly diagnosed cancer throughout the world, next to lung cancer. However, breast cancer is the most commonly diagnosed cancer among female subjects. Globally (2008), estimated 1.4 million new breast cancer cases and 4.6 lakhs breast cancer deaths were reported.[1] In India (2008), the estimated total number of new cases and deaths owing to breast cancer were 115,251 and 53,592.[2]

Risk factors for breast cancer are multiple and synergistic. Family history of breast cancer and genetic factors are the important risk factors. Reproductive factors such as early menarche, late menopause, and late age at first childbirth are

Access this article online	
Website: http://www.ijmsph.com	Quick Response Code:
DOI: 10.5455/ijmsph.2016.06122015275	

associated with breast cancer. People who are using oral contraceptive pills and hormone replacement therapy are more at risk than others. Lack of breast feeding is also associated with it.[3,4] Lifestyle factors such as diet, physical activity, overweight, and obesity also determine the occurrence of breast cancer.[5] The risk of breast cancer could be reduced by changing the lifestyle factors, which are modifiable. However, the scope of prevention of breast cancer is minimal because many important risk factors are nonmodifiable. Therefore, it is essential to promote the breast cancer screening among high-risk groups. By screening, breast cancer can be diagnosed and treated at an early stage. This will increase the survival rate among the patients.[6]

For early breast cancer detection, American Cancer Society recommends that women aged 40 years and older should have a mammogram every year. Regarding clinical breast examination (CBE), it recommends that women in their 20s and 30s should have CBE a as part of a periodic (regular) health examination by a health professional, preferably every 3 years. Starting at age 40, women should have a CBE by a health professional every year. In resource-poor settings, doing breast self-examination (BSE) monthly is an option for women in their 20s.[7]

Every woman should be educated about breast cancer and its screening methods by the health-care personnel to prevent cancer-related morbidity and mortality. For this, all the health-care personnel should have adequate knowledge regarding it, and they should be the role models. If the health-care personnel's knowledge is poor, then, it is not possible to educate the community through them. Hence, it is essential to assess their knowledge regarding breast cancer and its screening methods.

The objective of this study was to assess the knowledge, attitude, and practices regarding breast cancer and its screening methods among nursing staffs working in a tertiary-care hospital located in South India.

Materials and Methods

This cross-sectional, descriptive study was conducted to assess the knowledge, attitude, and practices regarding breast cancer and its screening methods among staff nurses working at a tertiary-care hospital in Puducherry, India. A total of 230 staff nurses were approached and invited to participate in the study. Of 230 staff nurses, 198 consented to participate in the study. A pretested, structured interview schedule was used for data collection. The interview schedule consisted of the following domains such as sociodemographic characteristics, knowledge regarding breast cancer, knowledge, attitude, and practices regarding the screening tests (BSE, CBE, and mammography). Under sociodemographic characteristics, the participants were interviewed about age, sex, educational qualifications, and years of working experiences. The domain of knowledge regarding breast cancer consisted of causes and risk factors of breast cancer, diagnostic methods, treatment modalities, screening methods, etc. Under knowledge, attitude, and practices regarding the screening tests, the participants were interviewed about whether they had heard about the tests, source of information, age at which one should start performing the tests, usefulness of the tests, practice of the tests, age at which they had started practicing, and at what intervals. The participant's knowledge regarding the eight steps of BSE was assessed using a scoring system. Eight steps included were examination of breasts while taking bath, examination in front of the mirror, examination while lying down, examination with arms raised, examination of all quadrants in a circular motion, examination of the nipples, examination of the axillary region, and no examination during menstrual periods. Each step was given a score of "1". Total score was eight. Data were collected by one of the investigators. Ethical clearance was obtained from the Institutional Ethics Committee. All the study participants were provided with participant information sheet, and written informed consent was obtained.

Statistical Analysis

All the data were entered in Microsoft Office Excel 2007, and statistical analysis was done using SPSS software, version 16.0. Frequency and proportions were calculated.

Result

Sociodemographic Factors

Table 1 shows the sociodemographic characteristics of the study participants. Eighty percentage of the participants were in the age group of 21–25 years. Almost all the participants were female subjects (97%). The participants who had completed bachelor degree in Nursing were 80.7%, and those who had completed Diploma in Nursing were 17.8%. The proportion of participants who had less than 3 years of working experience was 76.3%.

KAP Regarding Breast Cancer

Table 2 shows the study participant's knowledge regarding the breast cancer. Most common cancers among the urban people as per the participants were breast (73.2%) and cervical cancers (24.7%), and most common cancers among the rural people as per the participants were breast (51.0%) and cervical cancers (23.2%). The participants had mentioned family history (40.9%), inadequate breast feeding (29.8%), radiation exposure (20.7%), and genetic factors (12.1%) as important causative and risk factors for breast cancer. Age, menstruation-related factors, nulliparous women, and obesity were the other causative/risk factors mentioned by the participants. Very few participants also mentioned about contralateral breast cancer, early menarche, late menopause, and late childbirth as risk factors. Only 36.9% of the participants had mentioned biopsy as a diagnostic method for breast cancer. Around 50.5% and 40% of the participants had wrongly mentioned mammography and BSE as diagnostic methods, respectively. Chemotherapy (80.8%), surgery (63.1%), and radiation therapy (57.1%) were the treatment modalities

Table 1: Sociodemographic characteristics of study participants (*n* = 135)

Sociodemographic characteristics	Frequency (*n*)	Percentage
Age group (years)		
21–25	108	80.0
26–30	19	14.1
>30	8	5.9
Sex		
Female	130	97.0
Male	5	3.0
Education (nursing)		
Diploma	24	17.8
Graduate	109	80.7
Postgraduate	2	1.5
Years of working experience		
<1	57	42.2
1 to < 3	46	34.1
3 to < 5	14	10.4
5 to < 10	11	8.1
≥10	7	5.2
Total	135	100.0

**n* = 135(Not willing to share the socio-demography information= 63)

used for breast cancer as per the participants. Seventy-eight percentage of the participants answered that the patients would survive for more than 5 years with treatment. Without treatment, they said that only 38.4% would survive for more than 5 years. Around 93% responded that the breast cancer could be diagnosed at an early stage. When the participants were asked to mention about the screening tests using an open-ended question, 73.2% of them mentioned about BSE. But, only 11.6% mentioned about CBE, and only 18.7% mentioned about mammography.

KAP Regarding the Screening Tests for Breast Cancer

Table 3 shows the study participant's knowledge, attitude, and practices regarding the screening tests for breast cancer. All the study participants (100%) had heard about the BSE, and around 97% heard about the mammography. Around 95% of the participants heard about the BSE during their graduation. Few study participants (4%) mentioned that they came to know about BSE from their school. Eighty-seven percentage of the participants heard about CBE during their graduation and 10% after joining the work from their senior colleagues. Around 93% of the participants came to know about mammography during their graduation. Two-thirds of the participants mentioned that the age to start practicing BSE was less than 20 years. Around 35% told that CBE should be started between the age of 21 and 30 years. More than one-fourth of the participants did not know when one should start undergoing mammography. Around 95% of study participants agreed that all the screening tests were useful to diagnose the cancer at an early stage. More than two-thirds of the participants were doing BSE, but only 10% had undergone CBE. Nobody had undergone mammography so far. More than three-fourths of the participants started practicing the BSE before the age of 20 years. Only 5.5% of the participants were practicing BSE regularly more than once a month. Fifty-four percentage of participants started undergoing CBE between the age of 21 and 25 years. CBE was done less than once a year in all participants.

Table 4 shows the scores obtained by the participants based on their knowledge regarding the steps involved in BSE. No participants had obtained the full score of eight.

Table 2: Knowledge regarding breast cancer (*n* = 198)

Variables	Frequency (*n*)	Percentage
Common cancers among urban women*		
Breast	145	73.2
Cervical	49	24.7
Common cancers among rural women*		
Breast	101	51.0
Cervical	46	23.2
Causes and risk factors*		
Family history	81	40.9
Inadequate breastfeeding	59	29.8
Lifestyle factors	49	24.7
Radiation exposure	41	20.7
Hormonal therapy	31	15.7
Genetic factors	24	12.1
Nulliparous women	23	11.6
Age	21	10.6
Diagnostic methods		
Biopsy	73	36.9
Treatment modalities*		
Surgery	125	63.1
Chemotherapy	160	80.8
Radiation therapy	113	57.1
Survival with treatment		
Up to 5 years	23	11.6
More than 5 years	155	78.3
Do not know	20	10.1
Survival without treatment		
Up to 5 years	85	42.9
More than 5 years	76	38.4
Do not know	37	18.7
Possibility of early diagnosis		
Yes	183	92.5
No	9	4.5
Do not know	6	3.0
Screening tests* (*n* = 183)		
Breast self-examination	145	73.2
Clinical breast examination	23	11.6
Mammography	37	18.7

*Multiple responses.

Table 3: Knowledge, attitude, and practice regarding the screening tests for breast cancer (*n* = 198)

Variables	Breast self-examination (BSE), *n* (%)	Clinical breast examination (CBE), *n* (%)	Mammography, *n* (%)
Knowledge regarding the screening tests			
Heard about the test	198 (100.0)	151 (76.3)	191 (96.5)
Source of information (multiple responses for CBE)			
School education	8 (4.1)	2 (1.3)	2 (1.0)
Nursing college	188 (94.9)	131 (86.8)	177 (92.7)
Working place	1 (0.5)	16 (10.6)	8 (4.2)
Mass media	1 (0.5)	1 (0.7)	2 (1.0)
Others	0 (0.0)	2 (1.3)	2 (1.0)
Age to start the test (years)			
≤20	127 (64.2)	61 (40.4)	12 (6.3)
21–30	48 (24.2)	52 (34.4)	48 (25.1)
31–40	15 (7.6)	9 (6.0)	42 (22.0)
>40	7 (3.5)	7 (4.6)	38 (19.9)
Do not know	1 (0.5)	22 (14.6)	51 (26.7)
Attitude regarding the screening tests			
Usefulness of the tests	193 (97.5)	149 (98.7)	180 (94.2)
Practices regarding the screening tests			
Ever done the test	129 (67.5)*	16 (10.8)**	0 (0.0)
Age groups at which started practicing the tests (years)			
	(*n* = 128)#	(*n* = 15)##	
≤20	99 (77.3)	6 (40.0)	NA
21–25	25 (19.5)	8 (53.3)	NA
26–30	4 (3.2)	1 (6.7)	NA
Frequency of practicing the tests			
	(*n* = 128)#	(*n* = 15)##	
< once a year	48 (37.5)	15 (100.0)	NA
1–2 times a year	23 (18.0)	0 (0.0)	NA
3–6 times a year	20 (15.6)	0 (0.0)	NA
7–12 times a year	30 (23.4)	0 (0.0)	NA
>12 times a year	7 (5.5)	0 (0.0)	NA

*n = 191 (males = 5, not willing = 1); **n = 148 (NA = 46, male = 4); # NA = 69; Not willing = 1; ##NA = 182; Not willing = 1; NA, Not applicable.

Table 4: Scores based on the knowledge regarding the steps involved in breast self-examination (*n* = 196)*

Score	Frequency (n)	Percentage
0	36	18.4
1	45	23.0
2	44	22.4
3	30	15.3
4	22	11.2
5	11	5.6
6	7	3.6
7	1	0.5
8	0	0
Total	100	100.0

*Not willing = 2.

Only one participant had obtained the score of seven of eight. The lowest score of zero of eight was obtained by around 18% of the participants.

Discussion

Almost three-fourth of the participants were aware that breast cancer was the commonest cancer in urban females. But, they did not know about the prevalence in rural area. The participant's knowledge regarding the causes and risk factors of breast cancer was moderate. Family history, increasing age, history of breast cancer, nulliparity, early menarche, and late menopause were mentioned by the nurses in two studies,[8,9] similar to our study. However, the percentage of nurses who knew the above mentioned risk factors was low in our study when compared with Karachi study.[8] This difference could be explained by the type of questionnaire. We used open-ended questionnaire to elicit the answers, whereas closed-ended questionnaire was used in Karachi study (Yes, no, and not sure).[8] Open-ended questionnaires are more objective and less leading than close-ended questionnaires. The knowledge of the participants regarding diagnostic tests was less than moderate. Almost half of the participants mentioned screening tests such as mammography and BSE as diagnostic tests. However, their knowledge regarding treatment was good.

Most of them agreed that the breast cancer could be diagnosed at an early stage. When an open-ended question was asked to mention the names of screening tests, three-fourth of the participants mentioned about BSE, and only less than 20% mentioned about CBE and mammography. When the same question was asked as close-ended, most of them replied that they had heard about all the three screening tests; similarly, more than 93% of nurses were aware of BSE and mammography in Karachi study.[8] However, the awareness regarding BSE was lesser (72%) among the women participated in a study conducted by Dündar et al.[10] in western Turkey. This could be attributed to the difference in study participants. In a study conducted in Morraco,[9] the awareness regarding mammography was lesser among the participants when compared with our study. Almost all acquired the knowledge regarding screening tests during their graduation. The knowledge regarding the age at which one should start doing the screening tests was very low.

Even though, all the participants heard about the BSE and almost all of them agreed about the usefulness of BSE, only two-third of those who heard BSE were practicing it. Majority of them started practicing BSE even before 20 years of age. But, only 25% of them were practicing it regularly. In a study by Dündar et al.,[10] around 72% knew about BSE, 41% were practicing, but only 10% were practicing regularly on monthly basis.[10] Their knowledge and practices were lesser compared with our study. This might be owing to different study participants, that is, staff nurses in our study and general women in the study done by Dündar et al.[10] In our study, majority of the participants heard about CBE, and almost all of them agreed about the usefulness of CBE. Only 10% of them were undergoing it, which was lesser compared to Dubai study. In Dubai study, around 42% of women attending primary health centers had undergone CBE.[11] Nobody had undergone mammography test in our study. This was because all the participants except one were below the age of 40 years. But, around 50% of the participants told that the mammography has to be done before the age of 40 years. In a study conducted among female health workers in Nigeria, around 3% were practicing mammography among nurses aged 40 years and older.[12] This showed that the people who were practicing mammography were very less.

The strength of this study was comprehensive assessment of knowledge, attitude, and practice about the various aspects of breast cancer and its screening methods. Results may be biased as most of the participants had less than 3 years of experience. It might affect the external validity.

Conclusion

Overall, the knowledge of the staff nurses regarding the breast cancer was moderate. However, their knowledge of the screening tests was low, and their practice of screening tests was very low. The staff nurses should undergo continuing medical education to revise and update their knowledge regarding the breast cancer and its screening methods. This would enable them to educate and motivate the health-care beneficiaries to undergo screening tests regularly, which would help to detect the breast cancer at an early stage. By this, we could prevent the breast cancer-related morbidity and mortality.

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How to cite this article: Santhanakrishnan N, Prabakaran S, Singh Z. Knowledge, attitude, and practice regarding breast cancer and its screening methods among nursing staff working in a tertiary-care hospital located in South India. Int J Med Sci Public Health 2016;5:1650-1655

Source of Support: Nil, **Conflict of Interest:** None declared.