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RESEARCH ARTICLE

CONVERTING KNOWLEDGE INTO PRACTICE: A CROSS SECTIONAL SURVEY AMONG NURSES OF SUB HIMALAYAN REGION ABOUT BREAST CANCER SCREENING

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ABSTRACT

Background: The frontline workers which include nurses need to be focused in creating awareness and reduce the cultural and emotional barrier about breast screening among the female patients and community they come across.

Objective: To determine the knowledge, attitude and practice (KAP) of use of cancer screening programmes among nursing students and staff of a tertiary care center.

Methodology: A cross sectional survey was conducted among 300 nursing students and staff of Dr. Rajendra Prasad Government Medical College, Kangra at Tanda, Himachal Pradesh in 2016. A semi structured predesigned study tool was introduced to assess the demographic profile and KAP regarding screening methods pertaining to breast cancer.

Results: The adequate knowledge about all symptoms of breast cancer was observed to be >80% among younger age nurses (age <40 years). A positive attitude towards breast self-examination (BSE) promotion in mass media was observed in more than 80% of younger age group nurses (<30 years). Majority (78%) of them performed BSE once a month; 11.3% underwent clinical breast examination (CBE) and 11.6% mammography. Time constraint (14.6%), lack of services and specialist (23.6%) and embarrassing to get examined (10.6%) were the quoted as the reasons behind not getting CBE. In a given situation when the participant discovers a breast lump, around 87% responded of taking immediate consultation from doctor.

Conclusion: Along with increasing knowledge we have to strengthen emotional status of women in our country. The frontline workers can prove to be a great asset in creating community awareness.

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INTRODUCTION

Although breast cancer (BC) is thought to be a disease of the developed world, almost 50% of breast cancer cases and 58% of deaths occur in less developed countries (World Health Organization, 2017). The incidence of breast cancer is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles. In low middle income countries like India twice as many breast cancer cases are recorded in women between 15-49 years, than in developed countries where two thirds of the cases are among women over 50 years (Forouzanfar et al., 2011) indicating the increasing public health burden. Early detection and immediate treatment is the most effective way to reduce the burden of breast cancer and improve survival (Tabar et al., 1985). Thus, earlier age of onset of BC and late detection are causes for concern indicating a dire need for

better awareness and screening practices among women (Aswathy et al., 2014). There is a dearth of large scale breast screening programs in India. BSE is advocated, but data on what proportion exercised is not available (Singh et al., 2015). Breast cancer screening method that has proved to be effective is mammography screening but is very costly and is cost-effective and feasible in countries with good health infrastructure that can afford a long-term organized population-based screening programme. Low-cost screening approaches, such as clinical breast examination, could be implemented in limited resource settings when the necessary evidence from ongoing studies becomes available. Nearly all Indian breast cancers are clinically detected; almost none are detected by screening (Agarwal and Ramakant, 2008). Nurses constitute one group of health workers who are more frequently in contact with patients and their relations than other healthcare professionals. In view of the roles nurses are expected to play in breast care, this study was conducted among nurses working in a tertiary centre of North India, to determine their knowledge, attitude and practice of use of cancer screening programmes.

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MATERIALS AND METHODS

Study design and setting

The cross sectional study was conducted in nursing school at Dr. Rajendra Prasad Government Medical College Kangra at Tanda, H.P. from September through December, 2016. The survey was designed to investigate the socio-demographic background of the respondents and their level of awareness, knowledge, attitudes on breast cancer and use of cancer screening programmes such as self-breast examination, clinical breast examination and mammography. Taking prevalence of good knowledge among similar group of participants from literature as 25.2% the minimum sample size was calculated to be 290 using Epi info v7 (Fotedar *et al.*, 2013). We approached 310 nurses to account for attrition.

Selection of participants

The study was conducted in a case study mode using convenience sampling among nursing students, interns and staff at the college and hospital. The study was initiated after approval from institute's ethical committee. There were three batches of nursing students (general nursing diploma; GNM) with 30 students in each. The respective batches of nursing students including internship batch were approached in their classes after prior permission from their principal and the participants were explained the procedure and purpose of data collection. The seating arrangement was such that one participant was seated at such a distance from the next participant that they could not talk to each other. This was done by keeping a gap of two benches between the participants. Hence a total of 120 students and interns were approached of which 119 participated in the survey; one refused to participate. The staff posted in general and private wards of the hospital (around 20 wards) were approached. The nurses worked in three shifts in a day with minimum two and maximum four nurses on duty at one point of time. Before proceeding to their duties or at the end of the duty hours they were invited in lecture theatres and the same procedure as above were performed for data collection. A total of 190 nurses were approached and 181 consented to participate. A total of 300 nurses consented and handed over the complete pro forma; hence were the final sample size for the study.

Data collection and analysis

A self administered semi structured questionnaire to obtain information regarding socio-demographic characteristics, knowledge, attitude and practice towards breast cancer was administered. In order to standardize the questionnaire format and method of data collection and to be sure of the reliable and consistent recording of the data a pilot testing was done prior to actual conduction of study. Before commencement of data collection respondents consent to participate was obtained. The questionnaire, included questions on Socio-demographic profile, relating to age, educational status, place of residence and marital status, and specific questions about knowledge of the common symptoms and signs of breast cancer and diagnostic procedures available for the disease, as well as attitude towards breast cancer and practice of breast self examination (BSE), clinical breast examination (CBE) and mammography. Knowledge regarding symptoms and screening are presented as adequate or inadequate. All the correct responses to each of the subsections of knowledge related

questions were given a score of one and the wrong answer or 'don't know' response were scored zero respectively. After adding up the scores of each question the maximum score with correct answer were coded as adequate. Attitude was measured by a set of five positive attitude questions using an abridged Likert's scale with responses including 'agree', 'disagree' and 'uncertain'. A score of 1 was given for two types of responses; (1) 'Agree' and zero score was given for two types of responses; (1) 'Uncertain', (2) 'Disagree' to a positive attitude question. Practice was assessed on screening procedures and on teaching and recommending others the screening methods as a binary response. All data were analyzed using Epi info version 7.

RESULTS

Knowledge about screening for breast cancer and its symptoms among the nursing students and staff is shown in table 1. It focuses on adequate knowledge of the study participants. The mean age of study participants was 28.9±8.4 years. Around 80% belonged to rural area and 60% were married. Majority of study participants (60.3%) were staff nurses with GNM as their qualification. Around 40% of the participants had 6-10 years of work experience, followed by 33.3% of participants with no experience as they were students. Maximum adequate knowledge on symptoms and methods of screening for breast cancer was observed among younger age group of <20 years. The adequate knowledge about all symptoms of breast cancer was observed to be >80% among nurses of age <40 years; but decreased as age increased. Majority (84.3%) had knowledge about BSE. Also adequate knowledge about all methods of screening was reported among nurses under age of 50 years (>90%). Knowledge among students was higher than the staff nurses. The knowledge about symptoms and screening methods was lower among married participants as compared to their single/unmarried counterparts. Knowledge about mammography was adequate among only around half of participants (54.3%) (Table 1).

Around 82% responded positively about starting screening for breast cancer as part of national programme but only 43.7% observed BSE skill training and sensitization as a National issue. Majority of the participants wanted BSE and CBE to be promoted as screening programme (84.6% and 82.7% respectively), only 72% wanted mammography to be promoted as part of screening programme. A positive attitude towards BSE promotion in mass media was observed in more than 80% of younger age group nurses (<30 years). Positive attitude towards promoting BSE in mass media was reported in 94.3% of participants who were single, but only 35.8% of them observed the skill training and sensitization on BSE as a national issue. In a given situation when the participant discovers a breast lump, around 87% responded of taking immediate consultation from doctor. This immediate care seeking behavior was higher in 21-40 years of age group, married and experienced staff nurses (Table 2). The practice of screening was interviewed with the participants and it was observed that around 62% of participants have either practiced or shared with others any of the screening methods. Majority (78%) of them performed BSE once a month. This was highest among women of 41-50 years age group (95.2%), students (80.6%) and single women (78.5%). The majority of nurses quoted time constraint and 'forget to do it' as reason given by those who could not perform monthly BSE.

Table 1. Knowledge about breast cancer and screening methods among nurses of a tertiary care centre of Himachal Pradesh

Knowledge about	Symptoms of Breast cancer	Methods of screening	Breast self examination	Clinical breast examination	Mammography	Total
	Adequate	Adequate	Adequate	Adequate	Adequate	
Total: 300	260 (86.7)	279 (93.0)	253 (84.3)	214 (71.3)	173 (57.7)	
Age groups (years)						
≤20	72 (100)	70 (97.2)	72 (100)	61 (84.7)	43 (59.7)	72 (100)
21-30	105 (84.7)	112 (90.3)	97 (78.2)	86 (69.4)	69 (55.6)	124 (100)
31-40	66 (85.7)	74 (96.1)	63 (81.8)	51 (66.2)	50 (64.9)	77 (100)
41-50	14 (66.7)	19 (90.5)	15 (71.4)	12 (57.1)	8 (38.1)	21 (100)
>50	3 (50.0)	4 (66.7)	6 (100)	4 (66.7)	3 (50.0)	6 (100)
Qualification						
GNM students	117 (98.3)	118 (99.2)	114 (95.8)	96 (80.7)	71 (59.7)	119 (100)
Post GNM staff	143 (79.0)	161 (89.0)	139 (76.8)	118 (65.2)	102 (56.4)	181 (100)
Marital status						
Single	122 (100)	120 (98.4)	118 (96.7)	100 (82.0)	78 (63.9)	122 (100)
Married	138 (77.5)	159 (89.3)	135 (75.8)	114 (64.0)	95 (53.4)	178 (100)
Area of residence						
Urban	50 (82)	51(83.6)	48 (78.7)	44 (72.1)	32 (52.5)	61 (100)
Rural	209 (87.8)	228 (95.8)	204 (85.7)	169 (71.0)	140 (58.8)	238 (100)
Years of experience						
Nil (student)	100 (100)	99 (99.0)	97 (97.0)	82 (82.0)	61 (61.0)	100 (100)
≤5	45 (90.0)	46 (92.0)	45 (90.0)	29 (58.0)	33 (66.0)	50 (100)
6-10	92 (76.7)	104 (86.7)	88 (73.3)	83 (69.2)	62 (51.7)	120 (100)
11-15	12 (70.6)	17(100)	12 (70.6)	9 (52.9)	9 (52.9)	17 (100)
16-20	6 (100)	6 (100)	6 (100)	5 (83.3)	3 (50.0)	6 (100)
>20	5 (71.4)	7 (100)	5 (71.4)	6 (85.7)	5 (71.4)	7 (100)

Table 2. Attitude on breast cancer and screening methods among nurses of a tertiary care centre of Himachal Pradesh

Attitude towards	Starting breast cancer screening programme	BSE skill training and sensitization as a National issue	Promoting BSE in mass media	Promoting Mammography as screening procedure	Promoting CBE	Time period to see a doctor if she discovers a breast lump	Total
	Positive	Positive	Positive	Positive	Positive	Immediately	
	236 (78.7)	131 (43.7)	254 (84.7)	217 (72.3)	246 (82.0)	261 (87.0)	300 (100)
Age groups (years)							
≤20	58 (80.6)	19 (26.4)	69 (95.8)	62 (86.1)	66 (91.7)	54 (75.0)	72 (100)
21-30	94 (75.8)	67 (54.1)	100 (80.6)	87 (70.2)	100 (80.6)	106 (85.5)	124 (100)
31-40	63 (81.8)	37 (48.1)	66 (58.7)	50 (64.9)	60 (77.9)	74 (96.1)	77 (100)
41-50	17 (81.0)	6 (28.6)	14 (66.7)	13 (61.9)	14 (66.7)	21 (100)	21 (100)
>50	4 (66.7)	2 (33.3)	5 (83.3)	5 (83.3)	6 (100)	6 (100)	6 (100)
Qualification							
GNM students	91 (76.5)	38 (31.9)	113 (94.9)	96 (80.7)	96 (80.7)	93 (78.2)	119 (100)
Post GNM staff	145 (80.1)	93 (51.4)	141 (77.9)	121 (66.9)	150 (82.9)	168 (92.8)	181 (100)
Marital status							
Single	94 (77.0)	47 (38.5)	115 (94.3)	107 (87.7)	111 (91.0)	93 (76.2)	122 (100)
Married	142 (79.8)	84 (47.2)	139 (78.1)	110 (61.8)	135 (75.8)	168 (94.4)	178 (100)
Area of residence							
Urban	41 (67.2)	29 (47.5)	50 (82.0)	43 (70.5)	43 (70.5)	57 (93.4)	61 (100)
Rural	194 (81.5)	102 (42.9)	203 (85.3)	173 (72.7)	202 (84.9)	203 (85.3)	238 (100)
Years of experience							
Nil (student)	75 (75.0)	31 (31.0)	95 (95.0)	88 (88.0)	92 (92.0)	76 (76.0)	100 (100)
≤5	43 (86.0)	19 (38.0)	45(90.0)	33 (66.0)	34 (68.0)	45 (90.0)	50 (100)
6-10	96 (80.0)	68 (56.7)	92 (76.7)	79 (65.8)	97 (80.8)	110 (91.7)	120 (100)
11-15	11 (64.7)	7 (41.2)	11 (64.7)	7 (41.2)	14 (82.4)	17 (100)	17 (100)
16-20	6 (100)	2 (33.3)	6 (100)	6 (100)	6 (100)	6 (100)	6 (100)
>20	5 (71.4)	4 (57.1)	5 (71.4)	4 (57.1)	3 (42.9)	7 (100)	7 (100)

Table 3. Practice of breast cancer screening methods among nurses of a tertiary care centre of Himachal Pradesh

	Frequency of performing BSE			Ever taught somebody how to perform BSE		Ever had CBE performed on you		Ever had mammography		Ever practiced/shared or recommended any of the screening methods		
	Once a month	Never	Other	Yes	No	Yes	No	Yes	No	Yes	No	Total
	234 (78.0)	36 (12.0)	30 (10.0)	249 (83.0)	51 (17.0)	34 (11.3)	266 (88.7)	35 (11.7)	265 (88.3)	188 (62.7)	112 (37.3)	300 (100)
Age groups (years)												
≤20	57 (79.2)	10 (13.9)	5 (6.9)	66 (91.7)	6 (8.3)	1 (1.4)	71 (98.4)	6 (8.3)	66 (91.7)	45 (62.5)	27 (37.5)	72 (100)
21-30	96 (77.4)	11 (8.9)	17 (13.7)	100 (80.6)	24 (19.3)	15 (12.1)	109 (87.9)	15 (12.1)	109 (87.9)	73 (58.9)	51 (41.1)	124 (100)
31-40	57 (74.0)	12 (15.6)	8 (10.4)	64 (83.1)	13 (16.9)	12 (15.6)	65 (84.3)	10 (13.0)	67 (87.0)	52 (67.5)	25 (32.5)	77 (100)
41-50	20 (95.2)	1 (4.8)	0	17 (81.0)	4 (19.1)	5 (23.8)	16 (76.2)	4 (19.0)	23 (81.0)	16 (76.2)	5 (23.8)	21 (100)
>50	4 (66.7)	2 (33.3)	0	2 (33.3)	4 (66.7)	1 (16.7)	5 (83.3)	0	6 (100)	2 (33.3)	4 (66.7)	6 (100)
Qualification												
GNM students	96 (80.7)	13 (10.9)	10 (8.4)	107 (89.9)	12 (10.1)	2 (1.6)	117 (98.3)	0	119 (100)	80 (67.2)	39 (32.8)	119 (100)
Post GNM staff	138 (76.2)	23 (12.7)	20 (11.0)	142 (78.5)	39 (21.5)	32 (17.7)	149 (82.3)	29 (16.0)	152 (84.0)	108 (59.7)	58 (40.3)	181 (100)
Marital status												
Single	96 (78.7)	12 (9.8)	14 (11.5)	107 (87.7)	15 (12.3)	4 (3.3)	118 (96.8)	8 (6.6)	114 (93.4)	77 (63.1)	45 (36.9)	122 (100)
Married	138 (77.5)	24 (13.5)	16 (9.0)	142 (79.8)	36 (20.2)	30 (16.9)	148 (83.2)	27 (15.2)	151 (84.9)	111 (62.4)	67 (37.6)	178 (100)
Area of residence												
Urban	43 (70.5)	12 (19.7)	6 (9.8)	50 (82.0)	11 (18.0)	3 (4.9)	58 (95.1)	17 (27.9)	44 (72.1)	46 (75.4)	15 (24.6)	61 (100)
Rural	191 (80.3)	24 (10.1)	23 (9.7)	198 (83.2)	40 (16.8)	31 (13.0)	207 (87.0)	18 (7.6)	220 (92.4)	142 (59.7)	96 (40.3)	238 (100)
Years of experience												
Nil (student)	80 (80.0)	11 (11.0)	9 (9.0)	90 (90.0)	10 (10.0)	2 (2.0)	98 (98.0)	6 (6.0)	94 (94.0)	64 (64.0)	36 (36.0)	100 (100)
≤5	37 (74.0)	13 (26.0)	0	34 (68.0)	16 (32.0)	4 (8.0)	46 (92.0)	5 (10.0)	45 (90.0)	33 (66.0)	17 (34.0)	50 (100)
6-10	96 (80.0)	13 (10.8)	11 (9.2)	103 (85.8)	17 (14.2)	24 (20.0)	96 (80.0)	18 (15.0)	102 (85.0)	73 (60.8)	47 (39.1)	120 (100)
11-15	9 (52.9)	5 (29.4)	3 (17.6)	11 (64.7)	6 (35.3)	1 (5.9)	16 (94.1)	5 (29.4)	12 (70.6)	9 (52.9)	8 (47.1)	17 (100)
16-20	5 (83.3)	1 (16.7)	0	4 (66.7)	2 (33.3)	1 (16.7)	5 (83.3)	1 (16.7)	5 (83.3)	5 (83.3)	1 (16.7)	6 (100)
>20	7 (100)	0	0	7 (100)	0	2 (28.6)	5 (71.4)	0	7 (100)	4 (57.1)	3 (42.9)	7 (100)

Majority of younger age group nurses (<20 years) (91.7%), Students (89.9%), single nurses (78.7%) with no work experience (90%) have taught any women to perform BSE. The participants who underwent CBE were 11.3%; that to from higher age group of 41-50 years (23.8%). Time constraint (14.6 %), lack of services and specialist (23.6%) and embarrassing to get examined (10.6%) were the quoted in majority the reason behind not getting CBE. Around similar proportion of participants (11.6%) underwent mammography also (Table 3).

DISCUSSION

Westernization of lifestyles will continue to increase leading to increase in incidence of breast cancer in developing countries. Since this risk factor, that is 'westernization' is uncontrollable early detection remains a cornerstone in breast cancer control. In low and middle income countries like India; with double burden of breast and cervical cancer cost effective interventions are needed (World Health Organization, 2017). Public education an important component of early detection must be sensitive to the culture and in the language of the region. Awareness about breast health regarding seeking help at early stage of development of signs and symptoms of cancer is a key element in intervention.

All health staff and especially female staff, who women may approach first, must be able to recognize the signs and symptoms of early as well as advanced breast cancer and must be able to refer patients for further diagnosis and treatment. Nurses are the frontline health staff and their knowledge, attitude and practices can predict the early diagnosis practices in the region (Yip *et al.*, 2008). In the current study on nursing students and staff it was observed that young age nurses had adequate knowledge about symptoms and screening of breast cancer. Overall knowledge about symptoms was adequate (all symptoms knowledge) among 87% of nurses; but the proportion decreased among nurses above 40 years of age. This was higher as compared to Nigerian nurses (Odusanya *et al.*, 2001). It is this age (>35 years) which is at risk of developing symptoms of breast cancer hence should be the group with maximum awareness. Knowledge about BSE (84.3%) was higher as compared to that of CBE and mammography among all participants. Nigerian female health workers' study also reported a lower proportion of (23.7%) of good knowledge about the importance of screening mammography for early detection of breast cancer (Akhigbe *et al.*, 2009). This is in contrast to findings among public health nurses in Singapore where a high level of knowledge (96.1%) of screening mammography was reported (Chong *et al.*, 2002). The knowledge about BSE as a screening method among Nigerian urban female health workers was lower than our study but comparable to a study among community-dwelling women

within the same area with 87.2% score (Akhigbe *et al.*, 2009; Okobia *et al.*, 2006). Reason for low awareness about CBE or mammography as screening modality could be the perception of approaching for medical care or mammography on onset of symptoms. One of the major barriers to screening is the lack of knowledge about the benefits of early detection (Pearlman *et al.*, 2008). Studies have also implied that with improved knowledge, the screening uptake will increase (Black *et al.*, 1993; Davis *et al.*, 1996). Attitude towards starting a country wide breast cancer screening programme was positive among 79% of nurses which was higher among students as compared to staff. Also attitude towards promoting screening programmes was most positive for BSE as compared to CBE and mammography. This finding was comparable to the attitude of Nigerian nurses (Odusanya *et al.*, 2001). Knowledge is a way of perceiving health behavior which is not necessarily always followed. Hence a positive attitude is needed to bring about the knowledge into practice. So the frontline workers can prove as good role models for creating awareness among general population about breast cancer screening programmes (Akhigbe *et al.*, 2009). However, in the current analysis the attitude weakened among higher age group, married nurses and those with higher experience. One of the probable reasons in the cultural setting of our country could be the nonchalant attitude of older and married women who are often of the opinion that having led a relatively disease free life so far and being married would prevent the disease now, hence more of negative attitude towards intervention (Rao *et al.*, 2005).

Majority of the study participants practiced BSE at correct frequency (78% monthly), however it decreased among age group >50 years, staff with higher number of years of experience and married nurses. In contrast to our study older women (>49 years of age) from United Arab were found to practice BSE more frequently than younger age group (40–49 years of age) (Seah and Tan, 2007). A similar proportion of practice of BSE was observed among 78% Nigerian female health workers and among 63% registered nurses of Singapore (Fotedar *et al.*, 2013; Akhigbe *et al.*, 2009). A much lower prevalence of practice of all the methods of screening was observed among similar study population from other part of the state as compared to our study (Seah and Tan, 2007). However a much higher proportion of BSE was reported among 89% of Nigerian Nurses in Lagos from a general hospital (Odusanya *et al.*, 2001). BSE being the most accessible, acceptable, appropriate and safe screening methods is expected to be practiced by all women after 35 years of age which was reported among 95% of the current study population in 40-50 years age group (World health organization, 2007). Practice of CBE and mammography was equally low among current study population; however both the methods were more prevalent among middle age nurses (41-50 years). Evidence also suggests mammography screening of women after 50 years of age and CBE after 35 years of age in some countries (World health organization, 2007). An extremely low mammography practice of only 3.1% was found among the nurses of Singapore and was prevalent among 40 years and above. Somewhat similar prevalence was reported among Nurses in Lagos (7.8%) but our study reported an abysmally low rate compared with similar studies in Saudi Arabia (42.7%) and Singapore (35%) (Odusanya *et al.*, 2001; Maha and Abdel Hadi, 2000; Seah and Tan, 2007). The reason for not getting CBE done as reported by the study population was time constraint, lack of facility, embarrassing, forgetting

and finding this procedure unnecessary. Cost constraint and lack of services was the reason quoted for not undergoing mammography also. Evidence suggests that the stigma of being rejected by the community and partner, potential fear of loss of breast and an obstacle of being the prevailing taboo of not discussing breast cancer topic openly are the barriers of health care seeking behavior in our country (Singh *et al.*, 2015). Hence these frontline female staff of our country are the key towards creating awareness and changing the attitude of the general population towards breast cancer screening procedures. BSE and CBE combined can prove to be efficacious as screening procedure in our country; hence it is necessary to first make these procedures friendly to nurses and female health workers. Because if this group finds it unnecessary or embarrassing the general population will never accept these procedures. Moreover the female physicians or specialists of any specialization should be trained in CBE so that females are never hesitant to take help. Students as compared to the experienced staff were more involved in sharing or teaching others the methods of screening or BSE. However preference to BSE has been observed among a large proportion. In a country where resources are constrained and if the majority of breast cancer patients are presenting in advanced stages, the introduction of a well-organized early diagnosis programme including BSE and CBE could, in the long-term, significantly improve survival and reduce mortality from breast cancer (World health organization, 2007).

To conclude our study participants met one of the core objective of World Health Organization's early detection programme for cancers, which is more than 80% awareness of early symptoms of BC among health care providers. At present, the only cancers for which there is good evidence that screening can reduce mortality are breast, cervix, colo-rectum and, possibly, oral cancer. (World health organization, 2007) Considering the acute shortage of doctors in rural areas in this country and no national/regional BC screening programme, adoption of routine and regular BSE and CBE appear to be more realistic and affordable methods of breast cancer screening in India (Agarwal *et al.*, 2008; Seah and Tan, 2007). Along with increasing knowledge we have to strengthen emotional status of women be it health care workers or general population. Hence a policy to empower nursing staffs, female health workers and accredited social health activists in BC screening programme could overcome a number of obstacles majorly faced by females from remote areas of country (Vidarthi *et al.*, 2013).

REFERENCES

- Agarwal, G. and Ramakant, P. 2008. Breast Cancer Care in India: the current scenario and the challenges for the future. *Breast care*, 3 (1): 21-7
- Akhigbe, A. O. and Omuemu, V. O. 2009. Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city. *BMC Cancer*, 9:203
- Aswathy, S., Quereshi, M. A., Kurian, B., Kamalamma, L. 2014. Screening for Breast Cancer in a Low Middle Income Country: Predictors in a Rural Area of Kerala, India. *APJCP*, 15: 5.1919
- Black, S. W., Harris, R., Rimer, B., Shapiro, S. 1993. Report of the International Workshop on Screening for Breast Cancer. *J Natl Cancer Inst.*, 85:1644–1656.

- Chong, P. N., Krishnan, M., Hong, C. Y., Swah, T. S. 2002. Knowledge and practice of breast cancer screening amongst public health nurses in Singapore. *Singapore Med J*, 43(10):509-16.
- Davis, T., Arnold, C., Berkel, H., Nandy, I. 1996. Knowledge and attitude on screening mammography among low-literate, low-income women. *Cancer*, 78:1912-1920.
- Elobaid, Y. E., Aw, T. C., Grivna, M., Nagelkerke, N. 2014. Breast Cancer Screening Awareness, Knowledge, and Practice among Arab Women in the United Arab Emirates: A Cross-Sectional Survey. *Plos One.*, 9 (9): e105783
- Forounzafar, M., Foreman, K.J., Delossantos, A.M., et al. 2011. Breast and cervical Cancer in 187 countries between 1980 and 2010: a systematic analysis. *Lancet*, 378: 1461-84.
- Fotedar, V., Seam, R.K., Gupta, M.K., Gupta, M., Vats, S., Verma, S. 2013. Knowledge of Risk Factors & Early Detection Methods and Practices towards Breast Cancer among Nurses in Indira Gandhi Medical College, Shimla, Himachal Pradesh, India. *Asian Pacific J Cancer Prev.*, 14 (1): 117-120
- Maha, S. A., Abdel Hadi, 2000. Breast cancer awareness among health professionals. *Annals of Saudi Medicine*, 20(2):135-6
- Odusanya, O. O. and Tayo, O. O. 2001. Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria. *Acta Oncologica*, 40(7): 844-8
- Okobia, M. N., Bunker, C. H., Okonofua, F. E., Osime, U. 2006. Knowledge attitude and practice of Nigerian women towards breast cancer; a cross sectional study. *World Journal of Surgical Oncology*, 4:11
- Pearlman, D. N., Clark, M. A., Rakowski, W. 2008. Screening for Breast and Cervical Cancers: The Importance of Knowledge and Perceived Cancer Survivability Screening for Breast and Cervical Cancers. *Women & Health*, 28: 37-41.
- Rao, R. S. P., Suma, N., Nair, N. S., Kamath, V. G. 2005. Acceptability and Effectiveness of a Breast health awareness programme for rural women in India. *Indian J Med Sci.*, 59 (9): 396-402
- Seah, M., Tan, S. M. 2007. Am I breast cancer smart? Assessing breast cancer knowledge among healthcare professionals. *Singapore Med J*, 48(2):158-162.
- Seah, M., Tan, S. M. 2007. Am I breast cancer smart? Assessing breast cancer knowledge among healthcare professionals. *Singapore Med J*, 48(2):158-162.
- Singh, S., Shrivastava, J. P., Dwivedi, A. 2015. Breast cancer screening existence in India: A non-existing reality. *Indian Journal of medical and pediatric oncology*, 36 (4): 207-9
- Tabar, L., Fagerberg, C. J., Gad, A., et al. 1985. Reduction in mortality from breast cancer after non screening with mammography: Randomized trial from the Breast cancer screening working group of the Swedish National Board of Health and Welfare. *Lancet.*, 1: 829-3
- Vidarthi, A., Soumya, A., Choudhary, S., Sinha, B. K. 2013. Barriers to breast cancer screening in young Indian Women: a tale of two cities. *Asian J Exp Sci.*, 27: 29-35.
- World health organization, 2007. Cancer control: knowledge into action: WHO guide for effective programmes; module 3. Geneva. WHO.
- World Health Organization, 2017. Cancer. <http://www.who.int/topics/cancer/en/> [accessed on February 27, 2017]
- Yip, C.H., Smith, R.A., Anderson, B.O., Miller, A.B., Thomas, D.B., Ang, E.S., Cafarella, R.S., et al. 2008. Guideline Implementation for Breast Healthcare in Low- and Middle-Income Countries. *American cancer society*, 113(8): 2244-56.
