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Original Research Article

Knowledge and practice of breast self-examination among nursing staff in Bangalore

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ABSTRACT

Introduction: Breast cancer has emerged as a major public health problem and early detection helps in bringing down the burden. Even though Mammography is the best choice for screening, it is expensive and requires skilled personnel. Breast Self-Examination (BSE) is important in early detection and for mass awareness especially in resource poor countries. Nurses and midwives constitute major contributors in delivering health care and education and if these are empowered and trained they can convince women to perform BSE. Various studies conducted on nurses BSE practice show that the nurses are generally ineffective practitioners of BSE and that their frequency of BSE teaching is low.

Aim and Methods: To assess the knowledge and practice of effective BSE among female nurses. A descriptive cross sectional study was conducted among 90 female nurses working in a tertiary care hospital. A self-administered questionnaire was used to assess the knowledge and practice of BSE. Written consent was taken from the participants. Data was collected on the socio demographic information, knowledge and practice of BSE. Data was analysed using SPSS version 16.

Results: Knowledge: 55.6% of the nurses said that BSE should be performed once in 6 months, 18.9% felt that it should be performed monthly. 42.2% of the nurses said that BSE has no relation to menstrual cycle. 86.7% of nurses said that BSE should be performed in standing up position and the first source of information was BSE awareness programmes. **Practice** 75.6% nurses practiced BSE but only 33.3% were effectively practicing BSE. 50% of the nurses said that they were confident in performing BSE. The major reasons for practicing were, early detection has a great value and fear of Breast cancer. The major reasons for not practicing BSE were, afraid I will find something 54.5%.

Conclusion: The study indicates that nurses had inadequate knowledge about BSE. Practice of BSE was high but very few practiced it effectively.

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1. Introduction

Breast cancer is the most common cancer and the second major cause of cancer death among women worldwide.¹ It is considered as leading cause of death among the women in the age group 15-54 years. Every three minutes a new breast cancer case is detected and every thirteen minutes a woman dies from breast cancer.² Globally the mortality, morbidity and economic costs associated with breast cancer are increasing. More than one million women are diagnosed

with breast cancer every year and 4,10,000 die due to breast cancer according to the estimates.³ Commonly breast cancer is seen among the women beyond age of 40 years. But breast cancer is now detected among women aged from 35 years.⁴ Even though the incidence remains higher in developed countries, prevalence of breast cancer related deaths are high in developing countries.⁵

With Increased burden in devolving and developed countries, breast cancer has emerged as a major public health problem. Early detection plays very important role in bringing down the burden.⁶ Early detections can be achieved

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through screening methods such as Breast self-Examination (BSE), Clinical Based Examination (CBE), examination by Physician or Nurses, Mammography, an X-ray of breast and Magnetic Resonance Imaging (MRI)⁷ these are considered to be effective in decreasing the breast cancer mortality.

Low awareness of screening methods / programs and expensiveness of the diagnostic tests are considered as the major reasons hindering early diagnosis. Early diagnosis can be successfully achieved by mass screening either by Mammography, Clinical Breast Examination (CBE) and Self-Breast Examination (SBE) or by the combination of three.⁸ Even though Mammography is documented to be the best choice for screening, it is expensive and requires skilled personnel.

Breast self-examination is an inexpensive, and easy method for early detection of breast cancer.⁹ BSE basically involves feeling the breast for lumps, shape, and size, texture and contour by the women herself. This makes a woman confident in understanding normal breasts and to identify changes.¹⁰ The purpose of breast self-examination is to increase the self-awareness and to help the woman to detect any abnormality in appearance or feel of breast.¹¹

Breast Self-Examination is also equally important and beneficial for mass awareness especially in country with limited recourses.¹² Breast Self-Examination (BSE) is a technique in which a woman examines her own breasts by seeing and feeling with fingers to detect breast lump. Breast Self-examination can help screen for: tumours, cysts, other abnormalities in the breasts. BSE can be done each month between the 7th and 10th day of the menstrual cycle. The BSE technique involves palpation of the breasts for lump with the tips of the fingers, rather than the flat of the hand. The woman would be in the erect position, either sitting or standing or while lying down. It has been observed that women can detect 95% of breast cancers and 65% of early minimal breast cancers through BSE.¹³

Adherence to BSE and education on BSE are considered as important health promotion strategy for young women. These will prepare women for future clinical breast examination and screening in their later life. However the BSE awareness and health seeking behaviour are considered to be poor in most developing countries hence necessitating the need for improving the awareness programs.¹⁴ Despite the benefits of BSE the practice still remains very low. It is also evidenced that women are more likely to perform if suggested and thought by nurses and physicians.¹⁵

Nurses and midwives constitute major contributors in delivering health care and if these are empowered and trained they can convince women to perform BSE. Unfortunately nurses lack motivation to perform on their own breast. Various studies conducted on nurses BSE practice show that the nursing staff are generally ineffective practitioners of BSE and that their frequency of BSE teaching is low.¹⁶ Thus, nurses should be aware of their

effective breast self-examination if they have to advocate to their patients. With this background a study was conducted to assess the knowledge and practice of effective breast self-examination among female nurses and their factors influencing the practice of BSE in a tertiary care hospital.

2. Materials and Methods

A descriptive cross sectional study was conducted among the female nurses working in a tertiary care hospital in Bangalore. A total of 90 nurses working in different departments of the hospital were randomly selected from the list obtained from the hospital. A self-administered questionnaire was used to assess the knowledge and practice of BSE. The questionnaire was explained and nurses were instructed on how to complete the questionnaire. The participation was completely voluntary and written consent was taken from the participants.

Data was collected on the socio demographic information, knowledge about BSE and practice of BSE. The BSE practice was further considered as effective BSE practice (If it BSE was done monthly immediately following menstruation in a supine position using the flat parts of the fingers. BSE=5), Partially effective BSE practice (If BSE was performed at least every two more of the above factors included in effective BSE) and Ineffective BSE practice (included the nurse who reported on BSE practice is given a score of 0). Data was analysed by SPSS version 16. Descriptive statistics were used to summarize general characteristics of the groups.

3. Results

3.1. Socio demographic findings

Majority, 92.2% of the respondents were in the age group between 20-29 years followed by 7.8% of the respondents in the age group of 30-39 years. 85.6% of the nurses belonged to Hindu religion. 66.7% of the nurses were unmarried and 33.3% of the nurses were married. (Table 1)

Table 1: Socio demographic distribution of respondents

Age of the respondents	No.	%
20-29	83	92.2
30-39	7	7.8
Total	90	100.0
Religion of the respondents		
Hindu	77	85.6
Muslim	11	12.2
Christian	2	2.2
Total	90	100.0
Marital status		
Unmarried	60	66.7
Married	30	33.3
Total	90	100.0

3.2. Educational status, years of experience and designation of the nurses

Majority 85.6% (77) of the nurses had BSc Nursing degree. 67.8%(61) of the nurses had 2-6 years of experience and 22.2%(20) nurses had less than one-year experience and 7.8% (7) of nurses had 7-10 years of experience. Majority 93.3% (84) of the nurses were working as Staff Nurses. (Table 2)

Table 2: Distribution of nurses according educational status, years of experience and designation

Education status	No.	%
GNM	13	14.4
BSC Nursing	77	85.6
Total	90	100.0
Year of experience		
Less than 1	20	22.2
2-6 years	61	67.8
7-10 years	7	7.8
More than 10 years	2	2.2
Total	90	100.0
Nursing designation		
Staff Nurse/GNM	84	93.3
Undergraduate	6	6.7
Total	90	100.0

3.3. Personal and family history of breast lump

Out of 90 respondents, 95.6% (86) of the nurses had no personal history of breast lump and only 4.4% (4) of the nurses had personal history of Breast Lump. 96.7% (87) of the nurses had no family history of breast cancer and only 3.3% (3) of the nurses had family history of Breast cancer. (Table 3)

Table 3: Distribution of nurses according to personal history and family history of breast cancer

Personal history of breast lump	No.	%
Yes	4	4.4
No	86	95.6
Total	90	100.0
Family History of Breast Cancer		
Yes	3	3.3
No	87	96.7
Total	90	100.0

4. Knowledge about Breast Self-Examination

4.1. Source of information

The first sources of information about BSE for the nurses were as follows. 38.9% (35) of the nurses heard first about BSE from BSE educational programme, and 30% (27) of the nurses heard about BSE examination from the nurses

and 11.1% (10) of the nurses said they heard about breast cancer from doctor. (Table 4)

Table 4: First source of information about BSE

First source of information about BSE	No.	%
Can't remember	4	4.4
Doctor	10	11.1
Pamphlet	0	0
BSE Educational programme	35	38.9
TV	4	4.4
Newspaper	2	2.2
Radio	0	0
In hospital as a patient	2	2.2
Mother/sister/relative/friend	1	1.1
Nurse	27	30.0
Other	5	5.6
Total	90	100.0

4.2. Knowledge of BSE with respect to frequency, timing, position and method

The knowledge about BSE among the nurses was assessed in terms of frequency, its timing in relation to the menstrual cycle, correct palpation and the bodily position when performing BSE was assessed. 55.6% of the nurses said that BSE should be performed once in 6 months, 18.9% felt that it should be performed monthly, 12.2.% nurses said that it should be performed more than once per month. (Table 5). It was found that 42.2% of the nurses said that BSE has no relation to menstrual cycle. 36.7% of nurses said that BSE should be performed immediately after menstruation. (Table 6). 25.6% of the nurses said that BSE should be performed by flat parts of the fingers, 43.3 5 said BSE should be performed using tips of the fingers and 31.1% of nurses said it should be performed using palms of the hand (Table 7). 86.7% of nurses said that BSE should be performed in standing up position and 13.3% of nurses said that BSE should be performed in lying down position. These results were indicative of inadequate knowledge on performing BSE.

Table 5: Knowledge of breast self-examination in relation to the frequency

Knowledge of Breast self-examination in relation to the frequency	No.	%
Once in 6 months	50	55.6
More than once per month	11	12.2
Monthly	17	18.9
Every alternative month	6	6.7
Every three to four months	1	1.1
Less than once in last six months	5	5.6
Total	90	100.0

Table 6: Knowledge on breast self-examination in relation to menstrual cycle

Knowledge on Breast self-examination in relation to our menstrual cycle.	No.	%
No relation to menstrual cycle - any time during the month	38	42.2
Immediately before menstruation	10	11.1
Immediately after menstruation	33	36.7
Midcycle	3	3.3
Do not menstruate but practice any time during the month	6	6.7
Total	90	100.0

Table 7: Knowledge on breast self-examination using hand palpation

Knowledge on Breast self-examination using hand palpation	No.	%
The tips of your finger	39	43.3
The palms of your hand	28	31.1
The flat parts (pads) of your fingers	23	25.6
Total	90	100.0

4.3. Practice of BSE and effectiveness of BSE practice

Among 90 nurses 24.4% (22) nurses did not practice BSE and 75.6% (68) nurses practiced BSE. When the nurses were classified according to the effectiveness of BSE it was found that, only 33.3% (30) were effectively practicing BSE and 64.4% (58) were ineffectively practicing BSE, and 2.2% (2) were performing partially effective BSE. (Table 8)

Table 8: BSE practice and effectiveness of BSE practice

Practice of BSE	No.	%
Not practiced	22	24.4
Practiced	68	75.6
Total	90	100.0
Effective Practice of BSE	N	%
Ineffective	58	64.4
Partially Effective	2	2.2
Effective	30	33.3
Total	90	100.0

4.4. Confidence to perform BSE

It was found that 50 percent of the nurses said that they were confident in performing BSE and 44.4% said they were somewhat confident and 5.6% of nurses were not at all confident in performing BSE. (Table 9)

4.5. Reasons for practicing and not practicing BSE

The major reasons for practicing BSE were, early detection has a great value 48.5% (33) and fear of Breast cancer 48.5%(33) followed by Breast lump found by women

Table 9: Confident to perform Breast self-examination

Confident to perform Breast self-examination	No.	%
Very confident-I am sure I know the method used for breast self-examination	45	50.0
Somewhat confident- I am uncertain of the technique I use for breast self-examination	40	44.4
Not confident at all-I don't think I am using right technique	5	5.6
Total	90	100.0

herself 27.9%(19). (Table 10). The major reasons for not practicing BSE were, afraid I will find something 54.5% (12), followed by don't have the time practicing BSE 50% (11), followed by not applicable for practicing BSE 27.3%(6) respectively in all the groups (Table 11). Fear was seen as the most common reason either for practice of BSE. Some women performed BSE with a fear and some women did not perform BSE with the fear of finding something.

Table 10: Reasons for practicing BSE

Reasons for practicing BSE	No.	% (n=68)
Brest lumps found by the women herself	19	27.9
Doctor said practice BSE	13	19.1
Early detection has great value	33	48.5
I am at high risk	4	5.9
Breast cancer patient realize importance of BSC	17	25.0
Personal experience	11	16.2
Might save life	5	7.4
Guided by Nurse	17	25.0
Fear of BC	33	48.5
Mastectomy as consequence of BC	19	27.9

Table 11: Reasons for not practicing BSE

Reasons for not practicing BSE	No.	% (n=22)
I Forgot	1	4.5
Don't have the time	11	50.0
Afraid I'll find somethings	12	54.5
I don't know	2	9.1
Don't think it has value	1	4.5
Not think about BC	2	9.1

4.6. Examination of breast by the doctor

It was found that 40%(36) nurses said that they were never examined by the doctor, 40%(36) nurses said that they were sometime and 12.2%(11) said they were most of the time examined and 7.7%(7) said they were always examined by the doctor for breast lump. (Table 12)

Table 12: Breast examination performed by the Doctor at any consultation

Frequency of the Doctor examined Breast	No.	%
Never	54	60.0
Sometime	23	25.6
Most of the time	5	5.6
Always	8	8.9
Total	90	100.0

5. Discussion

5.1. Knowledge about BSE

The present study revealed that the knowledge about BSE in terms of its frequency, timing, position, methods was inadequate. 42% of the nurses said that BSE has no relation to menstrual cycle. 55.6% of the nurses said that BSE should be performed once in 6 months and only 18.9% of nurses said that it should be done monthly. 43.3% of the nurses used finger tips to palpate. In contrast a study conducted by Jayadevan et al concluded that 87.7% of the nurses opined that BSE should be performed monthly preferably on 5th or seventh day after menstruation.

86.7% of nurses in the present study opined that BSE should be performed in standing position and 13.3% said in lying down posture. In contrast results of Jayadevan et al study revealed that 42.6% of nurses opined that BSE can be performed in standing posture and 47% of nurses said that ideal position to perform BSE is either standing or lying down position.¹⁷ Similar study conducted by Wegene Jemebere on Ethiopian nurses revealed that 16.4% of nurses performed monthly, and only 32% of nurses said that they perform BSE a week after menstruation and 47.6% of the nurses used both standing or lying down position and 57% of nurses used palm and middle finger to palpate.¹⁸

The present study indicated that the knowledge of BSE among the nurses is inadequate. Similar finding was reported in a study conducted by Pravin N Yerpude et al where it was found that level of knowledge and practice of BSE among female was low. Level of awareness and BSE was highest among 51-60 years. The study also recommended that through health education effort should be made to increase level of knowledge and practice of BSE.¹⁹

5.2. First source of information about BSE

First source of information about BSE in the present study was BSE educational programme (38.9%), nurses (30%), TV and Newspaper, (4.4% and 2.2%), and doctors (11.1%) were also the sources of information. Similar cross-sectional study conducted by Katende Godfrey, et al, revealed that 56.9% of nursing students received information through mass media.⁶ The study conducted by Kalayu Birhane, et al also concluded that the source of information about Breast

cancer is mass media.²⁰ Similar results were found in a study conducted by U.M.D. Gwarzo, K. Sabitu and S.H Idris. These studies reported that the sources of information about BSE among respondents was media which was found most common followed by health workers accounting for 45.5% 32.2% respectively.²¹ The main source of information about breast cancer and BSE, as recorded by the study participants, was BSE educational programme. This emphasizes the potential effectiveness and the delivery of the specific programs on BSE and their role in modifying health behaviour and promoting public education among the general population.

5.3. Reasons for practicing and not practicing BSE

The major reasons for practicing BSE were, early detection has a great value (48.5%) and fear of Breast cancer (48.5%) followed by Breast lump found by women herself (27.9%). These indicate the preventive attitude and anxiousness about breast cancer, among the nurses. The major reasons for not practicing BSE were, afraid I will find something 54.5%, followed by don't have the time practicing BSE (50%), followed by not applicable for practicing BSE (27.3%). These reasons also indicate apprehensiveness about the disease and poor knowledge about the disease. Similar study by Nada A.S et al reported that fear from detecting a lump in the breast (25%) was the main reason not to perform BSE.²² Similarly study conducted by Jayadevan et al also indicated that 70% of the nurses perform BSE because of fear of breast cancer and 53.8% of nurses performed BSE as it was advised by doctor and the major reasons for not performing were lack of time (16.7%) which was also reported in the present study as the major reason for not performing.¹⁷ The findings of the present study highlight the need for promoting awareness about breast cancer and early methods of detection to allay the fear and to promote preventive behaviour.

5.4. Practice of BSE

The results of the present study indicated that, 24.4% nurses did not practice BSE and 75.6% nurses practiced BSE but only 33.3% were effectively performing BSE. The results of the present study are similar with a study conducted by Julia Agars which concluded that 86% of nurses were practicing BSE but only 18% were effectively performing BSE.²³ Similarly, a study conducted by Heyman et al. (1991) found that although 99% of the nurses indicated that they are capable of performing BSE but only 26% of the nurses in their sample used effective techniques.²⁴ Similarly 42.6% of nurses performed BSE as reported by the study conducted by Nada A.S et al.²² Another cross-sectional study was conducted by Katende Godfre et al also concluded that the practices of BSE was high (76.5%) but the skills related to Breast self-examination practices were found to be low

(43%).¹⁹ It can be commented from the findings of the study that even though the practice of BSE among the nurses was high but they were not practicing it effectively only few nurses were practicing BSE effectively thus highlighting the need for training the nurses in improving their skills.

Practice of BSE also depends on the confidence of nurses. The present study showed that 50% of the nurses did not have confidence to perform BSE. Similarly, a study conducted by Nada A.S et al also reported that the lack of confidence in their own examination (27%) was the major reason for not practicing BSE. This again emphasizes on training and empowering nurses to confidently perform BSE.

The present study did not show any association of BSE practice with age, history of breast lump and family history of breast lump. But various studies showed that higher age was significantly associated with practice of BSE. Clarke and Sandler, in their study concluded that all the nurses over 40 years of age practiced BSE.²⁵ Similarly, BSE practice was found to be significantly higher in older nurses in the study conducted by Julia Agars.²² The reason for the difference in the finding of the present study can be attributed to the fact that the study participants were not beyond the age of 39 years.

6. Conclusion

The study indicates that nurses had inadequate knowledge about frequency, timing, position and methods of performing BSE. The major source of information about BSE in the present study was BSE educational programme. The major reasons for practicing BSE were, early detection has a great value and fear of Breast cancer. Fear was also the major reason for not practicing. Practice of BSE was high but very few practiced it effectively. Lack of confidence was also the major reason for practicing BSE.

7. Recommendation

Educational Interventions have to be developed and delivered for training the nurses to improve knowledge, practice and skills to perform Breast Self-Examination. Awareness programs should be conducted to allay the fear associated with breast cancer and to emphasize on early detection of breast cancer through BSE which will promote preventive behaviours and also help in promoting public education among the general population as nurses are considered to be forefront in educating.

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9. Conflict of Interest

The authors declare that they have no conflict of interests.

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