(International Print/Online Journal)

SJIF IMPACT FACTOR: 5.565
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 7, Issue 1 , Page No: 42-52
January-February 2024

IJMSCR

Effectiveness Of Breast Self- Examination Education Intervention Among Women In The Rural Field Practice Area Of Andhra Medical College, Visakhapatnam

Dr. G. Ganga Bhavani[1] , Dr. Satha Vaheni[2].B, Dr. K.V. Phani Madhavi[3]
[1]Professor, [2]Senior Resident, [3]Associate Professor,
Department of Community Medicine ,
[1]Government Medical College, Eluru
[2]Government Medical College, Vijayanagaram, Andhra Pradesh
[3]Government Medical College, Rajamahendravaram

***Corresponding Author:**
Dr.K.V.Phani Madhavi
Associate Professor, Department of Community Medicine Government Medical College,Rajamahendravaram

Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract

Back Ground: The most common cancer in the world by the end of 2020 was breast cancer. Cancer patients in rural areas were diagnosed at late or advanced stages of disease, with a higher proportion of them having widespread metastasis, indicating the need for increased attention in terms of awareness, treatment, and early diagnosis facilities. Hence the present study was done.

Aim: To increase awareness and practice about Breast Self-Examination (BSE)in rural women and to screen out suspected cases of breast diseases for further management.

Methods: A Community based interventional study was carried out in a Rural health center (RHC), Simhachalam in Visakhapatnam, for a period of 2 years to increase awareness and practice about Breast Self-Examination (BSE)in rural women and to screen out suspected cases of breast diseases for further management.

Results: Mean age of the women was found to be 36.12 years with a standard deviation of ± 10.57. About 65.7% of the women were married between 16 to 20 years of age, 41.17% had early onset of menarche, 3.92% were nulliparous, 6.86% women had family history of Breast cancer and 21.57% never heard of breast cancer. There was significant increase in the Knowledge Scores on BSE during Pre-intervention and Post-intervention with a p value <0.001.

Conclusion: Awareness levels about breast cancer and its screening methods was found to be less among women. Educational interventions and screening programs in the community by health care providers would help in early detection and improve survival.

Keywords: Women, Breast Self-Examination (BSE), breast cancer, Health Education

Introduction

Breast cancer was the fifth most common cause of cancer-related deaths according to WHO[1]. Its incidence is rising between the ages of 30 and 40 years. Currently, nearly 48 % of Breast cancer patients in India are under the age of 50[2].

As per India's National Family Health Survey (NFHS-5), only 0.9 % women (1.2% in urban and 0.7% in rural areas) in India had ever undergone breast examination in the age group of 30-49 years[3].

Breast Self-Examination (BSE) is an important, cheap and easy method for early diagnosis of breast cancer. Regular BSE in conjunction with breast self-awareness is one strategy for early breast cancer detection, particularly in low- and middle-income countries where access to other early detection

methods, such as mammography and ultrasonography is limited[4].

One of the factors limiting the effectiveness of screening tests is a lack of awareness about breast cancer[5]. Examining their own breasts each month after their menstrual cycle is the most simple and effective way for the common women to detect early breast cancer[6].This emphasizes that women must be aware of the anatomy and texture of breast, risk factors, warning signs and early detection methods of breast cancer[7].

National Institute of Cancer Prevention and Research (NICPR) Guidelines, under Indian Council of Medical Research (ICMR) recommended BSE for women above 20 years age to look for early signs of breast cancer[8]. Women in developing countries such as India, are more likely to be diagnosed at a late stage of breast cancer due to inadequate access to early detection and treatment. Thus, keeping in mind the public health importance of breast cancer and the early detection strategy of BSE, the present study was designed.

Objectives:

1. To assess the current knowledge on Breast Self-Examination (BSE) among the women aged between 20-60 years residing in the field practice area attached to Department of Community Medicine.
2. To study the distribution of risk factors for breast cancer among study participants.
3. To provide Health education to assess their knowledge and skill on BSE after intervention.

Materials And Methods:

A Community based interventional study was carried out in a Rural health center (RHC), Simhachalam, field practice area of the Department of Community Medicine, Andhra Medical College, Visakhapatnam, Andhra Pradesh. for a period of 2 years from January, 2021 to November, 2022 among all the women aged between 20-60 years residing in that area for more than two years, irrespective of their marital status, who gave consent to participate were considered for the study. Those who were already diagnosed with breast cancer, seriously ill, bedridden, and mentally retarded were excluded from the study. Sample size was calculated based on the prevalence of knowledge on BSE where it was 26% before intervention and 46% after intervention in a study done by **Sunita S et al[9]**. It was calculated by comparing two proportions before and after intervention by using the formula with the help of free access online calculator. Comparing two proportions (Paired/Before – After).

$$\varphi = \frac{\pi_A(1-\pi_B)}{\pi_B(1-\pi_A)}$$

$$\pi_{Discordant} = \pi_A(1-\pi_B) + \pi_B(1-\pi_A)$$

$$n_{pair} \geq \frac{\left(Z_{1-\alpha/2}(\varphi+1) + Z_{1-\beta}\sqrt{(\varphi+1)^2 - (\varphi-1)^2 \pi_{Discordant}}\right)^2}{(\varphi-1)^2 \pi_{Discordant}}$$

Alpha (α): Type 1 error rate Beta (β): Type 2 error rate πA : Expected proportion of outcome before intervention πB : Expected proportion of outcome after intervention

Alpha = 0.05 Beta = 0.2

Proportion before intervention = 0.26

Proportion after intervention = 0.46

Minimum paired sample needed = 92

After adding 10% non-response rate, the obtained sample size was 102.

Sampling Technique: Present study was conducted in two sub-centres under RHC, Simhachalam with a total population of 14000 where population of sub-centre 1 was 12250 and subcentre 2 was1750. Study area covers five Sachivalayams covering a total population of **14000** with a female population of **4232** between 20 to 60 years of age. List of women between 20-60 years of age from the two sub centres was obtained from the Family household survey

Volume 7, Issue 1; January-February 2024; Page No 42-52

register maintained by the Rural Health Centre. From this list, 20 study participants were chosen from each Sachivalayam till a sample size of 102 was attained using by Simple random sampling technique with the help of computer-generated random numbers. The study was conducted in three phases. First phase was pre-intervention phase, second was -intervention phase and third was post intervention phase.

During the **Pre-intervention phase**, data was collected by interviewing participants by using pre-designed semi- structured oral questionnaire: Information was collected on risk factors for Breast cancer. Anthropometric measurements such as Height (in centimeters) by using stadiometer and Weight (in kilograms) by weighing machine and rounded off to the next higher digit were also recorded. Information on Past History of any cancer, family history of breast cancer. Knowledge regarding BSE was assessed with the help of **standard questionnaire**[10]. total Knowledge score on BSE ranged between 0-12 and was classified as follows: 0 – 4 as poor, 5 – 8 as average and 9 – 12 as good.

Observational check list (18 steps procedure) used to assess the skill on BSE[11.A score between 0-6 was considered as weak performance, 7-12 was as acceptable performance and 13-18 as good performance of BSE.

Intervention Phase: A health education intervention was provided to improve the knowledge on Breast Cancer & technique of BSE according to NICPR Guidelines under ICMR[12]. An 'Interactive Learning Session Plan' of health Education Intervention was given to the participants for a duration of twenty minutes on introduction, causes, symptoms, diagnosis, treatment, importance of breast self-examination and steps of BSE by using A-V aids.

Post Intervention Phase: After a period of three months, post interventional assessment was done using same questionnaire and the BSE observational check list, having 18 options was filled by observing the procedural skill which was carried out in a community hall or Anganwadi center. All study participants were given adequate privacy to carry out BSE. The women who were identified having any problem in their breast were examined and suspicious cases were referred to King George Hospital, Visakhapatnam, Andhra Pradesh for further investigations and management.

The study participants were divided into small groups of 10 subjects for each session and a total of 10 sessions were held in the community hall of the respective subcenters to cover all the study subjects. Health Education Intervention on various aspects of breast cancer including screening methods was explained using power point presentation on laptop and with the help of audio-visual aids, BSE was demonstrated in local language. The Flyers /leaflets containing information regarding steps of BSE procedure, warning signs and different screening and diagnostic methods of Breast cancer were distributed to all the women who had attended the session.

Post Intervention Phase: After a period of three months, post international assessment regarding knowledge on BSE using same questionnaire and the BSE observational check list, having 18 options was filled by observing the procedural skill which was carried out in a community hall or Anganwadi center. All study participants were given adequate privacy to carry out BSE. The women who were identified having any problem in their breast were examined and suspicious cases were referred to King George Hospital, Visakhapatnam, Andhra Pradesh for further investigations and management.

Ethical Consideration: Institutional Ethics Committee (IEC)approval was obtained. Confidentiality was maintained.Permission was also taken from the concerned local health authorities for conducting the study. Informed written consent was be obtained from the study participants of the study and the Information sheet regarding the study was given to all the respondents.

Data Analysis: Data was entered in Microsoft excel sheet and analyzed using Statistical Package for the Social Sciences (SPSS) - 17 software version. Data was expressed in frequencies and percentages and Knowledge scores on BSE was analyzed using paired t test before and after intervention.

Results:

A Community based interventional study was conducted among 102 women aged between 20 - 60 years in the Rural field practice area, Simhachalam of Andhra Medical College, Visakhapatnam for a period of 2 years.

Volume 7, Issue 1; January-February 2024; Page No 42-52

Age of the study population ranges from 21 years to 60 years with a mean age of 36.12 years & a Standard Deviation of ± 10.57, majority (39.21%) were in the age group of 21 – 30 years followed by 27.45% between 31 – 40 years, 21.56% between 41 – 50 years and 11.76% were in the age group of 51 - 6s0 years.

Illiterates were 12.75%, majority (99.02%) were Hindus. Among the women 99.02% were married. Majority of the participants (42.16%) were from middle class, 28.43% upper middle, 23.53% lower middle and 5.88% from Upper class as per updated B.G. Prasad Socio-Economic Classification and 78.4% of the subjects have heard about breast cancer before the start of the study and 21.57% never heard.

Regarding **s**sources of information on breast cancer, it was mostly (32.35%) from media (TV, Radio, Internet), 26.47% of the women through health care personnel and 19.6% from friends. Among the participants 15.68% underwent screening by clinical breast examination, majority (84.31%) did not.

Screening for breast cancer was done by Mammogram to all the women 40 years age and above.

Pre-Intervention: In the present study women 40 years age and above were 34 in number. Among them only one woman (2.94%) underwent mammography. Therefore, before intervention 84.31% of the participants were not screened for breast cancer by clinical breast examination and 97.06% by mammography. Majority (85.2%) of the participants never heard of breast self-examination before conduct of study. However, 14.7% of the respondents knew about breast self-examination before the commencement of the study.

About 91.18% had never been taught about BSE. Majority (85.2%) of the women who never heard of BSE before, improved to 100% after intervention. Present study showed that 13.72% and 96.07% of the participants acknowledged that BSE is an important tool for the early detection of breast cancer before and after intervention respectively. There was an increase in the knowledge of participants with periodical sessions on BSE procedure after intervention. During the pre-intervention interview, 96.07% of the respondents had no idea and after intervention, 75.49% knew that BSE should be done monthly. Before intervention, none of the study participants and after intervention 54.9% had knowledge at what age should BSE be started i.e 20 years of age

Post -Intervention:

Before intervention none of the respondents had knowledge on the best time to perform BSE and after intervention 59.8% respondents said that it should be performed a week after menstruation. It was also found that there was overall improvement in levels of scores from Pre to Post- intervention phase.The increase in levels of scores on Knowledge regarding BSE was found to be statistically significant ($P < 0.0001$) using Paired t test. Before intervention, 86.27% of the participants had poor knowledge and 13.73% had average knowledge and none of the participants had good knowledge scores on BSE. After 3 months of post intervention, the scores have been improved to 75.49% with good,18.63% with average and 5,88% with poor knowledge on BSE**.**

After 3 months post intervention, 65.69% study subjects had acceptable, 31.37% had weak and 2.94% had good performance. About 69.6% (71) of the participants reported that they performed BSE at least once in 3 months period after intervention.

Two subjects (1.96%) were identified with fibroadenomatous changes in their breasts after performing. They were referred to tertiary care hospital for further management and one (0.98%) participant was noticed with lump in her left breast and consulted a Gynecologist and found to have carcinogenic changes by clinical breast examination and Ultrasound breast.

After subjecting to further confirmatory tests like Fine Needle Aspiration Cytology(FNAC) , she was diagnosed as Stage 2 Duct cell Carcinoma of Breast and referred to higher center where surgical procedure, Left Modified Radical Mastectomy and Axillary Dissection was done .

Risk Factors:

Age at Menarche: Majority (47.05%) of the respondents attained menarche between 13-14 years, 41.1% at earlier age i.e before 12 years considered to have attained early onset of menarche (before 12 years),and are at increased risk of developing breast cancer.

Volume 7, Issue 1; January-February 2024; Page No 42-52

Age at marriage: More than half (65.34%) of the subjects were married between 16-20 years of age ,14.85% before 15 years and late marriage among 4.95% between 26-30 years.

Parity: Nulliparous women were 3.92%.

Around 10.20% had their 1st child between 26-30 years.

Only one respondent (1.02%) had first child birth at age > 30 years, a risk factor for breast cancer.

Hormonal contraception Usage: Only 0.98% used hormonal contraception.

Past History: About 6.86% of the study participants reported history of Benign breast problems such as abscess, fibroadenoma. None of the study participants had a history of smoking or alcohol or chest radiation. History of breast biopsy (FNAC) was given by1.96% of women. Among them breast biopsies were done twice in one woman.

Obesity: Present study also showing that 33.33% of the subjects were overweight and 8.82% were obese as per WHO Classification of BMI.

Family history of Breast cancer: About 6.86% of the respondents were having family history of Breast cancer. Those having positive family history were second degree relatives (Grandparent, aunt, cousin). None of the subjects had a history of any other cancer.

After 3 months of post- intervention, 65.69% study subjects had acceptable performances, 31.37% had poor followed by 2.94% had good performance.

Discussion:

Present study was conducted in a sample of 102 rural women between 20 - 60 years of age, residing in Rural Field Practice area under Andhra Medical College.

The mean age of study subjects was 36.12 (± 10.57) years. Similar findings were observed in Kumaraswamy **et a**l [13] and **Abd El Aziz HM et al [14]** where the mean age was found to be 36.9 (± 8.8) and 39.94 (±13.5) years respectively.

About One fourth (27.45%) of our subjects were in the age group of 31-40 years as compared to that of **Yerpude PN et al** [15] subjects where it was 30.89%. The age group of 20-40 years is appropriate for promoting awareness about breast cancer detection.

Multiple risk factors such as early menarche age, advanced age at first pregnancy, not having children, family history of breast cancer, advanced age at menopause, use of oral contraceptives, and shorter duration of breastfeeding were assessed for the study population.

Studies reported that women who began menstruating at an early age (before age 12) had an increased risk of breast cancer. In the present study, 41.1% of the women attained menarche before 12 years of age.

About 3.92% of women were nulliparous and 1.02% women had child after 30 years of age. Similar finding was reported by **Nisha B et al [16]** where 3.2% of their subjects had first child after 30 years of age. Nulliparity is a proven risk factor for breast cancer, and the risk is most evident when compared to the risk among parous women who gave birth at young ages.

In the present study, majority (96.04%) of the women breast fed their children.

About 6.86% of the women are having family history of breast cancer in the present study similar findings were reported by **Kumarasamy et al (8.5%) [13] and Bokaie et al (8.9%)[17]**This shows that family history of breast cancer is an important risk factor for carcinoma breast of breast cancer.

About 5.88% of women used contraceptives, among them 0.98% used hormonal contraception for one year. Usage of hormonal contraceptives for more than five years is a risk factor for breast cancer for at least five years after stopping treatment [18].

About 1.96% attained menopause between 51 -55 years. Women with reproductive history of late onset of menopause (after 50 years) are at increased risk of breast cancer [19] because there will be increased exposure of estrogen and increased number of ovulations. The researchers confirmed that longer reproductive cycles are associated with an increased risk of breast cancer.

In the present study 78.43% of the subjects heard of breast cancer which was in contrast with the findings of 51% in **Prusty RK et al** study [20] and 96.1% in **Devi Kommula et al [21]**.

Volume 7, Issue 1; January-February 2024; Page No 42-52

Media was the source of information among 32.35%, through health care personnel (26.47%) and 19.6% from Friends/ Relatives whereas media was the only source among 50.8% & 52% of their subjects in **Sideeq K et al [22] and Kumarasamy et al [13] studies.**

This shows reaching housewives with information via radio and television is an effective method and women's primary information source. Therefore, the mass media can be used to propagate and instill knowledge about breast cancer and BSE.

In the present study, 91.18% of participants were unaware of BSE whereas it was 67.2% in **Shubhangini Sachdeva et al [23]** study. Only 15.68% underwent screening by clinical breast examination whereas it was only 4% in **Sideeq K et al** study [22]. Only one woman,2.94% underwent screening by mammography but it was 4.5%. in a study by **Veena KS et al [24]**

Before intervention, only 13.73% had average knowledge and 86.27% had poor knowledge and none of the study subjects had good knowledge on BSE. Present study shows that before intervention, none of the respondents knew the best time for performing BSE but after intervention,59.8% whereas it was 77.1% in **Abd El Aziz HM et al [14]** study.

A post-test conducted on knowledge of BSE at least three months following the Health Education Intervention revealed statistically significant increase in the knowledge score from 0% to 75.49% with ($p < 0.0001$). Similar findings were reported in a study done by **Nisha B et al**[16].Minimal improvement in the skill on BSE was observed 3 months after intervention. Therefore, periodic awareness and skill education training programs on BSE need to be implemented among rural women.

Conclusion:

Awareness on breast cancer and its screening methods is still less among women especially in rural community. There is an urgent need for an intensive breast cancer awareness campaign. Availability of screening centers should be prioritized especially in rural areas which would help rural women in early detection and improve survival.

Referrences:

1. Breast cancer [Internet]. World Health Organization. World Health Organization; [cited 2022Dec12]. Available from: https://www.who.int/news- room/fact-sheets/detail/breast-cancer.
2. Three-year report of population-based cancer registries 2009-2011 - ICMR [Internet]. [cited 2022Dec12]. Available from: https://ncdirindia.org/All_Reports/PBCR_REPORT_2009_2011/ALL_CONTENT/PDF_Printed_Version/Preliminary_Pages_Printed.pdf
2. Home | Ministry of Health and Family Welfare | Goi [Internet]. [cited 2022Dec12].Availablefrom:https://main.mohfw.gov.in/sites/default/files/NFHS- 5_Phase-II_0.pdf
3. Lauver D. Theoretical perspectives relevant to breast self-examination.Advances in Nursing Science. 1987;9(4):16–24.
4. Montazeri A, Vahdaninia M, Harirchi I, Harirchi AM, Sajadian A, Khaleghi F, et al. Breast cancer in Iran: Need for greater women awareness of warning signs and effective screening methods. Asia Pac Fam Med 2008;7:6.
5. Lam WW, Chan CP, Chan CF, Mak CC, Chan CF, Chong KW, et al. Factors affecting the palpability of breast lesion by self-examination. Singapore Med J 2008; 49:228-3
6. Brunner LS, Suddarth DS. textbook of Medical-Surgical Nursing, volume 1 [Internet]. Google Books. Lippincott Williams & Wilkins 1988 ; [cited 2022Dec12]. Available from: https://books.google.com/books/about/Brunner_Suddarth_s_Textbook_of_Medical_s.html?id=SmtjSD1x688C
7. India against cancer - breast cancer detection, cancer prevention and cancer[Internet]. [cited 2022Nov21]. Available from: http://cancerindia.org.in/ breast-cancer/
8. Sreegiri S, Kajana PM, Bhimarasetty DM. Breast cancer and its screening awareness among rural and urban women of visakhapatnam- A community based study. Journal of Evidence Based Medicine and Healthcare. 2020;7(14):734–8.
9. cancerjournal.net [Internet]. [cited 2022Nov10]. Available from: https://www.cancerjournal.net/articles/2017/13/2

Volume 7, Issue 1; January-February 2024; Page No 42-52

/images/JCanResTher_2017_13_2_268_188433_sm12.pdf
10. Farshbaf-Khalili A, Shahnazi M, Vahed L, Javadi L. Status of Breast Self- Examination Performance among Women referring to Health Centers of Tabriz. Crescent J Med & Biol Sci 2014; 1(3): 90-6.
11. India against cancer - breast cancer detection, cancer prevention and cancer [Internet]. [cited 2022Nov21]. Available from: http://cancerindia.org.in/ breast-cancer/
12. H Kumarasamy H, Veerakumar AM, Subhathra S, Suga Y, Murugaraj R. Determinants of Awareness and Practice of Breast Self-Examination Among Rural Women in Trichy, Tamil Nadu. J Midlife Health. 2017 Apr-Jun;8(2):84-88.
13. Abd El Aziz HM, Akl OA, Ibrahim HK. Impact of A Health Education Intervention Program about Breast Cancer among Women in a Semi-urban Area in Alexandria, Egypt. J Egypt Public Health Assoc. 2009;84(1-2):219-43. PMID: 19712661.
14. Yerpude P, Jogdand K. [PDF] knowledge and practice of breast self- examination (BSE) among females in a rural area of South India: Semantic scholar [Internet]. undefined. 2013 [cited 2022Dec13]. Available from: https://www.semanticscholar.org/paper/KNOWLEDGE-AND-PRACTICE-OF- BREAST-SELF-EXAMINATION-A-Yerpude Jogdand/60231d7f2fc2f8ae6f8e2cef7f18f97317e79ab3
15. B., Nisha & Murali, Ramachandran. (2020). Impact of Health Education Intervention on Breast Cancer Awareness among Rural Women of Tamil Nadu. Indian Journal of Community Medicine. 45. 149. 10.4103/ijcm.IJCM_173_19.
16. Bokaie M, Lotfi MH. Performed a qualitative and quantitative of breast self- examination: A checklist approach [Internet]. Journal of Community Health Research. Journal of Community Health Research; 2013 [cited 2022Dec13]. Available from: http://jhr.ssu.ac.ir/article-1-98-en.html.
17. White ND. Hormonal Contraception and Breast Cancer Risk. Am J Lifestyle Med. 2018 Jan 31;12(3):224-226
18. India against cancer - breast cancer detection, cancer prevention and cancer[Internet]. [cited 2022Nov21]. Available from: http://cancerindia.org.in/ breast-cancer/
19. Prusty RK, Begum S, Patil A, Naik DD, Pimple S, Mishra G. Increasing breast cancer awareness and breast examination practices among women through health education and capacity building of primary healthcare providers: a pre- post intervention study in low socioeconomic area of Mumbai, India. BMJ Open. 2021 Apr 27;11(4):e045424. doi: 10.1136/bmjopen-2020-045424. PMID: 33906843; PMCID: PMC8088239.
20. Anantha Lakshmi Satyavathi Devi Kommula, Surendranath Borra, Vani Madhavi Kommula. Awareness and Practice of Breast Self-Examination among Women in South India-IJCMAS 2014 ISSN: 2319-7706 Volume 3 Number 1 pp.391-394.82.pdf [Internet]. [cited 2022 Nov 16]. Available from: http://www.ijcmas.com/vol-3-1
21. Sideeq K, Ayoub T, Sailm Khan SM. Breast self-examination: assessing its knowledge attitude and practice among ethnic Kashmiri females. International Journal Of Community Medicine And Public Health [Internet]. 2017 Aug 23 [cited 2022 Nov 5];4(9):3288.
22. Sachdeva S, Mangalesh S, Dudani S. Knowledge, Attitude and Practices of Breast Self-Examination Amongst Indian Women: A Pan-India Study. Asian Pacific Journal of Cancer Care [Internet]. 2021 May 6 [cited 2022 Nov 7];6(2):141-7.
23. Veena KS, Kollipaka R, Rekha R. The Knowledge and attitude of breast self-examination and mammography among rural women. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2015 Sep 1;4(5):1511-7.

Volume 7, Issue 1; January-February 2024; Page No 42-52

Table 1 :Knowledge on Breast Self-Examination after Intervention" (n=102)

Questions for assessing Knowledge on BSE	Frequency (N=102)	Percentage (%)
1) Have you heard of BSE - Yes	102	100
2) Do you know that BSE is a useful tool for early detection of breast cancer? Yes	98	96.08
3) Have you been taught how to do BSE? Yes	98	96.08
4) At what age should BSE be started?		
a. 20 Years	56	54.90
b. 30 Years	19	18.62
c. After menopause	5	4.90
d. No idea	22	21.56
5) How often should BSE be done?		
Weekly	15	14.7
Monthly	77	75.49
No idea	10	9.8
6) What is the best time to do BSE?		
Before menses	10	9.80
During menstrual flow	5	4.90
A week after period	61	59.8
No idea	26	25.49
7) BSE Should be done by		

Volume 7, Issue 1; January-February 2024; Page No 42-52

The individual	96	94.12
No idea	6	5.88
8) BSE is done by:		
Inspecting the breast in the mirror	46	45.09
Feeling the breast with the hand	63	61.76
Feeling the armpit with the hand	34	33.33
Combination of all 3 steps	33	32.35
No idea	6	5.88
9) If you discover any abnormality during BSE, what will you do?		
Do some lab tests	5	4.90
See a Doctor	93	91.18
Not sure	4	3.92
10) What are the benefits of BSE?		
Early detection of breast cancer	81	79.41
Detection of any abnormal changes in the breast	17	16.67
No idea	4	3.92

"Table 2 :Knowledge Scores on BSE during Pre-intervention and Postintervention"

S.No	Knowledge Scores	Pre-intervention (N=102)	(%)	Post-intervention (N=102)	(%)	P value (Paired t test)
1	Good (9-12)	0	0	77	75.49	< 0.0001
2	Average (5-8)	14	13.73	19	18.63	
3	Poor (0-4)	88	86.27	6	5.88	

Volume 7, Issue 1; January-February 2024; Page No 42-52

"Table 3: Distribution of the participants according to the procedures of BSE using the observational checklist"

S.no	Options	Yes N (%)	No N (%)
1	For BSE, standing in front of a mirror observation was used	79(77.45)	23(22.5)
2	For BSE, observing both breasts for swelling, dimpling of skin, or changes in nipple	79(77.45)	23(22.55)
3	Looking at breasts in mirror with arms at sides	65(63.73)	37(36.27)
4	Looking at breasts in mirror with arms raised over head	49(48.04)	53(51.96)
5	Looking at breasts in mirror with hands on thigh	9(8.82)	93(91.18)
6	Performed all the above-mentioned forms	8(7.84)	94(92.16)
7	Feeling the breast for self-examination while in standing position, use right hand to examine left breast and left hand to examine right breast	95(93.14)	7(6.86)
8	While in supine position, placing a pillow under the tested breast	16(15.69)	86(84.31)
9	While in supine position, placing the hand under the head of the side being examined	44(43.14)	58(56.86)
10	To examine the breasts, finger pads of three middle fingers are used	70(68.63)	32(31.37)
11	Examining the breast with rotational movement of the fingers	89(87.25)	13(12.75)
12	Examining the breast with linear movement of the fingers	57(55.88)	45(44.12)
13	Examining the breast with radial movement of the fingers	11(10.78)	91(89.22)
14	Perform all the above options	7(6.86)	95(93.14)

Volume 7, Issue 1; January-February 2024; Page No 42-52

15	Paying attention to the upper outer quadrant of the breast (the armpit)	16(15.69)	86(84.31)
16	Pressing the nipple for any lump and blood discharge	30(29.41)	72(70.59)
17	Paying attention to the axillary lymph nodes	34(33.33)	68(66.67)
18	Paying attention to the Supraclavicular lymph node area	14(13.73)	88(86.27)

"Figure 1: Distribution of study participants according to Skill on BSE"

Volume 7, Issue 1; January-February 2024; Page No 42-52