Original article

An educational intervention study of breast self examination (BSE) in 250 women beneficiaries of urban health centers of west Zone of Ahmedabad

D.V.Bala[1], Hemant Gameti[2]
[1] Professor and Head, [2] Jr. Lecturer and PG student, Department of Community Medicine, Smt. NHL Municipal Medical College, Ahmedabad
Correspondence: D.V.Bala Email: baladv@rediffmail.com

Abstract:
A Health Education (HE) Intervention study of BSE in 250 women beneficiaries attending the Urban Health Centers of Ahmedabad was done. Pre-test assessment revealed that awareness about various risk factors and screening methods of breast cancer was relatively inadequate. However, three months after the intervention, there was not only significant improvement of knowledge, but improvement in BSE practices was also observed amongst these women.
The knowledge about increasing age, nulliparity, age at first pregnancy >30 years, age at menopause >50 years, family history of breast cancer, intake of oral contraceptive pills, obesity, lack of breast feeding, cancer in the second breast as risk factors of breast cancer had significantly increased by 37% to 68% in the post- intervention test as compared to the baseline (pre-test). Similarly knowledge of BSE and Mammography as screening methods of breast cancer also increased by 74% and 64% women respectively in the post test. Compliance to the regular and correct BSE was observed in nearly 20% of all women after three months.
Keywords: Risk factors of breast cancer, Health Education (HE) Intervention, Breast Self Examination (BSE).

Introduction:
According to National Cancer Registries and Regional Cancer Centers, Breast Cancer is the commonest cancer amongst women in Ahmedabad, Delhi, Kolkata, Mumbai and Trivandrum. It accounts for 19-34% of all cancer cases among women in India[1]. Moreover, data for national and regional cancer centers also show that there is an increase in the incidence of breast cancer. There is no definite primary prevention as yet. Therefore, early detection and prompt and adequate treatment (i.e. secondary prevention) of breast cancer would be helpful to decrease mortality from this disease. In developing countries, early detection by Breast Self Examination (BSE) is considered to be a simple, inexpensive, non-invasive, and non-hazardous intervention, which is not only acceptable, cost-effective and appropriate method of early detection of cancer, but also encourages women to take an active responsibility in preventive health. BSE is the most important individual preventive health strategy to be practiced by women on a regular basis. However, correct and thorough BSE has to be ensured and prompt and adequate medical help should be available when needed. Though BSE is recommended for all women after the age of 20, it is an important option for younger women.

Aims and Objectives:
To assess the baseline knowledge of Breast cancer and its various aspects in the women subjects studied,
To impart knowledge of importance of Breast cancer, its various causes, risk factors and signs & symptoms.
To impart knowledge of available screening methods of Breast cancer viz. Breast Self Examination, Clinical Examination by health professional and Mammography to these women, to teach these women how to do BSE and practice BSE regularly every month.
To evaluate the Health Education (HE) Intervention amongst these women after imparting education on the above aspects of breast cancer, to evaluate the practice of BSE, 3 months after intervention amongst these women.

Methodology:
This study was conducted in the UHCs of Ahmedabad Municipal Corporation on 250 women beneficiaries over 20 years of age, (20 to 70+ years) attending two Urban Health Centers of West Zone of Ahmedabad during six months, from March to August 2010. Baseline knowledge (Pre-test) was assessed using a predesigned, pre-tested questionnaire on various aspects of breast cancer. They were also taught how to do prevent it by early detection of the disease using BSE method step by step. Health Education Intervention on various aspects of breast cancer including screening methods and demonstration was done using video slides on LCD & Flip-Charts[2] for these women in small

groups of 20-25 subjects in each session on a mutually convenient day in the afternoon session in the UHCs. Total thirteen sessions were held in these UHCs to cover all these subjects. These HE Intervention sessions were attended by some more women (who did not participate in the study) and health staff of the UHCs as well. Photo-copies of BSE methodology was distributed to all the subjects for facilitating BSE at home on a regular basis. Women were asked to attend the next session on a fixed day if they had any query on the procedure of BSE. Post-Test was also taken using the same questionnaire, three months after the HE intervention. There was cent percent response rate of all the subjects included in the study. Mean, SD and Proportions. Chi square test was used in bivariate analysis.

Observations:

Mean age of the women was 33.7 ± 10.4 years and median age was 37.5 years. Ever married women were 227 (90.8%). While housewives constituted 131 (52.4%) and students 4 (1.6%), the rest were gainfully employed. Over 50% were educated upto graduation or more, but 20 (8%) were illiterate and the rest had done some schooling. (Table-1

Table 1 Socio-demographic and reproductive behavior information of the women under the study

Sr. No.	Reproductive behavior information	Mean ± S.D.
1	**Average age of the women (Years)**	**33.66 ± 10.41**
2	**Average age of Menarche (Years)**	**14.05 ± 1.61**
3	**Average no. of children**	**1.75 ± 1.03**
4	**Average age of first birth (Years)**	**22.4 ± 5.99**
5	**Average duration of Breast Feeding (Months)**	**16.02 ± 12.32**
6	**Average age of Menopause (Years)**	**44.75 ± 5.47**

Awareness about breast cancer as a disease entity was observed in 128 (51.2%) women. Main sources of knowledge were Health professionals (34.4%), magazines (32.8%), and media (14%). Baseline (Pre-test) knowledge regarding risk factors of breast cancer was ranging between 21% to 49%. Three months after HE intervention and demonstration, knowledge had increased. The difference between pre and post test was in the range of 36.8% to 68.4%. This is given in Table-2

Table 2: Comparison of Knowledge about Risk Factors of Breast Cancer before & after HE intervention (Pre & Post Intervention scores)

Sr. No.	Questions related to Risk Factors of Breast Cancer	Pre-Test Score (%)	Post-Test Score (%)	Differ-ence	p-value
1	**Increasing age**	**42**	**88**	**46**	**0.000**
2	**Nulliparity**	**25.2**	**89.2**	**64**	**0.005**
3	**Lack of breast feeding**	**49.6**	**86.4**	**36.8**	**0.000**
4	**Family history of Br. Cancer**	**27.6**	**89.6**	**62**	**0.000**
5	**Age at first pregnancy >30 years**	**29.6**	**88.8**	**59.2**	**0.000**
6	**Age at menopause >50 years**	**21.2**	**89.6**	**68.4**	**0.000**
7	**Obesity**	**26**	**91.2**	**65.2**	**0.000**
8	**Oral Contraceptive Pills**	**27.6**	**86.4**	**58.8**	**0.000**
9	**Cancer probability in other breast**	**35.6**	**91.6**	**56**	**0.000**

Reported Contraceptive prevalence was only 29.5% (67 out of 227 married women). The common methods practiced by the users were viz. Condom (30%), Copper-T (25.4%), Oral Pills (28.4%) and female sterilization (12%).

Knowledge regarding various screening methods for the breast cancer had increased by 64% and 74.4% for BSE and Mammography respectively after the Health Education intervention. (Table-III). In our study, compliance to BSE, (performing BSE at least once) 3 months after the intervention was observed in 49 (19.6%) subjects, whereas only 6 (2.4%) performed three times.

Table 3: Comparison of Knowledge about Screening methods of Breast Cancer before & after HE intervention

Sr. No.	Other Factors of Breast Cancer	Pre-Test Score (%)	Post-Test Score (%)	Differe-nce (%)	p-value
1	**Knowledge about BSE**	**26.8**	**90.8**	**64**	**0.000**
2	**Knowledge about Mammography**	**14.8**	**89.2**	**74.4**	**0.005**

Discussion:

In a study by P Somdatta and N Baridalyne on "Awareness of breast cancer in women of an

urban resettlement colony", 56% women were aware of breast cancer and 53% were aware that breast cancer can be detected early, but only 35% mentioned about risk factors.[3] Breast feeding as protective factor was known to 24% of respondents. Oral Contraceptives were recognized as risk factor by 8% and advancing age by 4.9% women. The source of information was television (42%), Neighbours (41%), hospital staff (19%), print media (9%) and radio (3%)[3].

Sonia Puri, et al, studied "Awareness of Risk Factors and Aspects of Breast Cancer among North Indian Women".[4] The two main risk factors of breast cancer in their study were late initiation of breast feeding (15.3%) or not practicing breast feeding (16.9%). Late marriage being a risk factor was known only to 5.9% respondents and relation of obesity with breast cancer was known to only 9.1% subjects. The main preventive modality, breast self exam was known by only 33% subjects[4].

KhadigaF. Dandash, and Abdurrahman Al-Mohaimeed [5] studied female teachers of Saudi Arabia and reported several risk factors, viz. lack of breast feeding (52.7%), female sex hormones (38.6%), positive family history of breast cancer (22.1%), nulliparity (4.8%) and increasing age (2.7%). The main sources of knowledge in this group was print media (83.2%), television (68.2%), family and friends (28.6%) and health professionals (14.1%). BSE as a screening method was recognized by 43.4% and mammography by (9.3%), but it was done during the last month by only 15.4% women[5].

In the study of Salaudeen, Akanda and Musa[6], 36.7 percent of the respondents had good scores on knowledge of the cause of breast cancer and 81.9% respondents had heard of breast self examination. When asked about source of information about BSE, 23.6% respondents mentioned television, 15.0% mentioned print media and 18.6% identified health workers. Radio was mentioned by 18.2% and 6.5% identified friends as source of information on BSE[6].

In our study, compliance to BSE, at least once after the intervention was nearly 20%, as compared to the rate of ever doing BSE in Malaysian women workers in electronic factories was 44.8%.; but BSE at least once a month was only 24.4% workers[7]. The rates reported for National Health & Morbidity Survey in Malaysian women over 20 years of age was 34.2% and in urban women was 36.3%[7].

Conclusions and Recommendations:

Even though Pre-test knowledge levels regarding various factors associated with breast cancer was ranging from 21% to 49%, Post-test carried out minimum three months after the HE Intervention study showed a very encouraging and appreciable difference (range 36.8% to 68.4%), which was significant. (p value=0.000).

Thus, it was observed that awareness about breast cancer is low amongst women in this community. Therefore, public education on cancers of women should be conducted on a regular basis in the health centers and clinics. Propagation of correct messages for early detection of breast cancer and regular practice of BSE has to be promoted amongst all sections of women. Clinical breast examination should be carried out at UHC by health professionals when needed.

Cancer Society recommended that the monthly practice of BSE begin at the age of 20 in order for women to develop BSE as a monthly habit, and to encourage women to take responsibility for their own health[8].

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