

Can urban Accredited Social Health Activist (ASHA) be change agent for breast cancer awareness in urban area: Experience from Ahmedabad India

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ABSTRACT

Background and Aims: Globally, breast cancer is one of the major public health problem. In Indian women, breast cancer is now the most common cancer, having recently overtaken cervical cancer in this respect. Breast Cancer though on the rise among Indian women, they still do not perceive themselves at risk. Poor awareness about the disease, its risk factors and the absence of population-based screening contribute to delayed diagnosis. The aim of this study is to assess knowledge and practice of breast cancer in general and breast self-examination (BSE) amongst urban accredited social health activist in Ahmedabad, Gujarat. **Methods:** The study was conducted in three phases: pre-intervention phase, intervention phase, and post-intervention phase during 2018. A total of 104 ASHA participants were included and awareness about breast cancer and practices of breast self-examination was assessed through interviewing two different groups at two points of time: Control and Intervention group at the base line and end line. Interventional breast health education was administered through lectures, charts and silicon breast model for the basic knowledge of the breast cancer. The data had been analyzed by using software Epi info. **Results:** There was a significant improvement in knowledge regarding breast cancer and breast self-examination among the intervention group from pre- to post-test. An overall increase in the awareness of breast cancer 33%, Method of doing BSE of 54% and 42% of BSE practice was observed in the study group after intervention. **Conclusion:** A significant changes were observed in the knowledge. However, the behavior change requires reinforced training in regular interval.

Keywords: Breast cancer, breast self-examination practices, breast self-examination

Introduction

Breast cancer is the most commonly diagnosed cancer among women in 140 of 184 countries and common cause of cancer-related death in 103 countries worldwide,^[1] accounting for 25% of cancer cases and 15% of cancer-related deaths globally.^[2] Study shows that by the year 2030, the global burden of breast cancer is expected to cross 2 million with growing

proportions from developing countries with huge variation in survival chances.^[3] In fact, by 2020, the occurrence of most of the breast cancer deaths (70%) will be in the developing world.^[4] Breast cancer incidence in developed countries is higher, while relative mortality is greatest in less developed countries.^[5] Early detection remains an important strategy in low- and middle-income countries (LMICs) for improved survival and simple cost-effective treatment.^[6] Hence, women's education is suggested in all countries for early detection and treatment, and it is being said that breast awareness only goes so far in self-identifying breast cancer.^[7]

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Breast cancer has ranked the number one^[8] cancer, representing 25% of the all cancer cases with the rate of incidence is 25.8% per 100,000 women and mortality 12.7 per 100,000 women among women in India.^[9] An estimated 70,218 women died of breast cancer in India in the year 2012, the highest in the world for that year.^[10] It is reported that 25-32% of all cancers among women are from the cities in India such as Mumbai, Delhi, Ahmedabad and Chennai.^[11] Study shows that the scenario of breast cancer in India has increased incidence in younger Indian women and most of the patients only seek medical advice when the disease is fairly advanced.^[12] Cancer registration is not mandatory in India, as it is restricted to only in the urban areas. The points for the data collection are at the point of diagnosis (incidence) and at death (mortality) and only some of the PBCR's have undertaken survival studies.^[13] There is no organized government-funded screening program for breast cancer in India.^[14] 'Screening' is an alien word for most people in India.^[15] Considering that breast cancer is the most common type of cancer among women with an increasing incidence, there is a need to develop community-based, well organized screening programs for breast cancer instead of coincidental screening of women to reduce morbidity and mortality of breast cancer.^[16]

Globally, breast self-examination (BSE), clinical breast examination (CBE) and mammography is the recommended screening test for early detection of breast cancer.^[17] The most effective method is mammography. However, it is quite expensive, uncomfortable and has a high false positive rate resulting in psychological distress among women.^[18] The World Health Organization (WHO) has recommended low-cost screening approaches such as clinical breast examination (CBE) and breast self-examination (BSE) for developing countries with limited or no resources for mammography for early detection and diagnosis of breast cancer.^[19] Studies shows that the rationale behind extending BSE practice as a screening test is the fact that breast cancer is frequently detected by women themselves without any other symptoms.^[20] It is an evident that women who correctly practice BSE monthly are more likely to detect a lump in the early stage of its development^[21] and periodic but consistent BSE facilitates breast health awareness, women empowerment and responsibility for health.^[22] Even though BSE is simple, quick and cost-free procedure, the practice is very low.^[23] In LMICs, awareness continues to be low among lay women as well as primary care physicians and nurses.^[24] Education of healthcare personnel is needed to ensure cancer signs and symptoms are correctly identified, which will lead to accessible and appropriate diagnostic services.^[25]

Studies from India showed about high acceptance of healthcare workers as educators. ASHA will be the first port of call for any health-related demands of deprived sections of the population, especially women and children, who find it difficult to access health services.^[26] ASHA becomes an inevitable component in providing primary health.^[27] Utilization of our existing primary healthcare infrastructure and its facilities for opportunistic screening and health awareness classes by trained

nonmedical community personnel such ASHA, Anganwadi workers should be recommend for our future policies.^[28] Diseases Control Priorities 3 also says that community health workers who conduct screening and detection of early-stage disease are likely to be easily welcomed.^[29] This simple approach would be a promising way to reduce the burden of the disease significantly.^[28] It is a real time to think for the ASHA as a change agent for breast cancer.

Methods

This study used pre-post interventional study design, consisted of two groups: one was interventional group and other was the control group. Both groups were assessed at the two point of time: before and after the giving of breast health education. In the intervention group, breast health education was given after the collection of base line data where as in control group, to maintain the study design and ethical consideration it was given after the collection of base line and end line data. Total 104 ASHA workers were included between 21 to 55 years of the age and who had no history of breast cancer. Those participants who were included in this study were selected randomly from 3 to 6 urban health centers coming under two randomly selected zones of AMC. These zones were selected according to geographically opposite directions and as per operational feasibility. The selection of UHC was completely based upon completion of sample size and availability of number of ASHA.

Intervention was involved the application of standard and scientific evident breast health education. A structured questionnaire tool was used for data collection. There were total 24 questions which include all three parameters of knowledge, attitude and practice. The education intervention package and structured questionnaire was developed and used by Pramukh Swami medical college Karamsad. A study was approved by ethical committee of IIPH Gandhinagar. It measured the awareness regarding various aspects of breast cancer and compliance to breast self-examination through interviewing two different groups at two points of time. It would be representative of all urban accredited social health activist of every zone of Ahmadabad.

Result

In this study, a total of 104 respondents were interviewed. Table 1 describes the Sociodemographic characteristic of the study participants. The Mean Age of study population was 38.4 years (standard deviation \pm 7.2) and 39.9 (standard deviation \pm 7.6) with range of 21 to 55 years in the intervention and control group, respectively. The mean age of menarche was 15.41 years (standard deviation \pm 1.2) 14.8 years (standard deviation \pm 1.8) with range of 13-18 years in the intervention and control group, respectively. Majority (85.71 in intervention and 79.71% in control group) was married and one-third of the population had education of higher Secondary level. About 8% and 14% of participants did have family history of cancer in the intervention and control group, respectively.

Table 2 describes the changes in the knowledge in both group before and after intervention in terms of percentage and difference in knowledge before and after intervention. In both group knowledge of breast cancer in different aspect was 28% and 31%, which was increased up to 61% in intervention group, whereas in the control group, it was only up to 49%. As shown in Table 2, there was a highly significant improvement in all knowledge items of the intervention group from pre- to post-test except possibility to occur breast cancer in male. About knowledge of breast cancer, the highest percent change to correct answer between pre- and post-test was reported 51.79%, 75% and 86.6% for Risk factor, symptoms and detection method of breast cancer, respectively, in intervention group. After intervention, 51.79% respondents had come to know for ideal interval of breast self-examination compare to 25% before intervention. There was equal change found in the aspect of most common type of female cancer in female in India. It might be due to this study was regarding promotion of breast self-examination and awareness about breast cancer in general and during introduction of study its emphasis these two words.

Table 3 describes the mean score of knowledge and total treatment effect of intervention in terms of difference in

difference. The mean score of knowledge at base line was 5.91 ± 4.38 and 5.48 ± 3.74 in control and intervention group respectively. At end line it was 8.91 ± 2.78 and 12.10 ± 3.44 in the control and intervention group, respectively. There were total of 18 questions regarding different aspects of knowledge regarding breast cancer. In the intervention group, after intervention, most of the participants were able to answer for on an average for 12-13 questions correctly out of 18, which were around for 8-9 questions before intervention period.

$$\begin{aligned} \text{Treatment Effect (TE)} &= (\text{EI-BI}) - (\text{EC-BC}) \\ &= (12.10-5.48) - (8.91-5.91) \\ &= (6.62) - (3) \\ &= (3.62) \end{aligned}$$

In this study, a total of 18 questions were asked regarding different aspects of knowledge. In base line of both group, participants were able to answer 5 question while after introducing intervention in intervention group participants were able to answer on an average of 12 question and in control group it was about 8 question. In the control group, without any intervention, there were some positive impact. It may be due to participants were working with health. If we talk regarding total study impact, then it is around participants were able to answer 3-4 questions more in comparison to the control group.

Table 4 describes about change in attitude and practice. In detail, compare to control group, in intervention group there were all over improvement in all three aspects of attitude and practice. After intervention, 91.07% participants were believed that BSE is important for them, among them 87.5% were able do to BSE by themselves, but only 67.86% have practiced it. Even though it was very short time to follow for regular examination for performing BSE, it showed improvement for that time. Most common reason for doing BSE was fear of breast cancer, feeling of lump, However, after intervention the education intervention was also the reason for performing BSE. The reasons for not doing BSE were they don't think that they are at risk and have any problems. A very few number of people thought that it would be harmful for them. During study the most common method used for performing BSE was while taking a bath, it was followed by in front of mirror, sleeping and standing.

Table 1: Socio demographic characteristic of study participants in Ahmedabad, India

Variable	Type	Intervention Group n=56 (100%)	Control group n=48 (100%)
Age	Numeric (in years)	38.4±7.2	39.9±7.6
Education	Primary	0	0
	Secondary	16 (28.57%)	18 (37.5%)
	Higher secondary	25 (44.64%)	25 (52.08%)
	Graduation	14 (25%)	14 (25%)
	Post-Graduation	1 (1.79%)	0
Marriage status	Married	48 (85.71%)	38 (79.71%)
	Unmarried	6 (10.71%)	4 (8.33%)
	Divorcee	1 (1.79)	1 (2.08%)
	Separated	0	0
	Widow	1 (1.79%)	1 (10.42%)
Age of Menarche	Numeric (in years)	15.14±1.2	14.8±1.8
Family H/o Cancer		4 (7.41%)	7 (14.58%)

Table 2: Knowledge regarding Breast cancer

Variables	Baseline Intervention (BI) n (%)	End line Intervention (EI) n (%)	Difference EI-BI n (%)	Baseline control (BC) n (%)	End line control (EC) n (%)	Difference EC-BC n (%)
Most common type of female cancer	23 (41.07)	45 (80.36)	22 (39.29)	26 (54.17)	39 (81.25)	13 (27.08)
Risk factor of BC	11 (21.07)	29 (51.79)	18 (30.72)	11 (24.17)	19 (40.42)	8 (16.25)
Sign and symptoms of BC	17 (30.95)	42 (75)	25 (44.05)	17 (35.76)	22 (47.57)	5 (11.81)
Detection Method	25 (45.84)	48 (86.6)	23 (40.76)	20 (42.19)	32 (67.19)	12 (25)
Ideal interval BSE	14 (25)	29 (51.79)	15 (26.79)	15 (31.25)	24 (50)	9 (18.75)
Occurrence of BC in male	3 (5.36)	12 (21.43)	9 (16.07)	1 (2.08)	5 (10.42)	4 (8.34)

Table 3: Difference in Difference of Knowledge score

Type	Intervention	Control
Baseline	5.48±3.74	5.91±4.38
End line	12.10±3.44	8.91±2.78

Table 4: Attitude and Practice about Breast self-examination in control and intervention group

Variables	EC	EI
BSE is necessary	45 (93.57%)	51 (91.07%)
Can you do BSE by your own	20 (41.67%)	49 (87.5%)
Have you ever examined your Breast	25 (52.08%)	38 (67.86%)

Figure 1 is about Box plot, representing change in mean score in both group at the baseline and endline.

Discussion

Findings shows a significant improvement in the different aspects of breast cancer knowledge and breast self-examination in intervention group after introduction of Breast health education intervention. We believe that this impact was influenced by Breast health education intervention but on the contrary we had also observed slight positive impact of awareness for breast cancer in control group. These might be due to participants were working with health departments. Various myths regarding breast cancer were observed like some respondents were believed that child's head injury during breast feeding can cause breast cancer, and that breast cancer is not curable, etc.

From this study, it was evident that even though study participants were from health department, most participants had not up to date knowledge for breast self-examination and breast cancer in general. On an average they had attended one training for breast cancer in their total job period. Studies show that breast cancer could have been detected early at the primary level by physicians or nurses if breast cancer screening and/or early detection must be offered at the primary care level and primary care level workers must be properly trained for it.^[24] It was also observed that there were no any display for awareness of breast cancer in any of urban health center amongst selected urban health center during the study period, while on primary health center, it was found commonly.^[24]

Even though controversies over the value of breast self-examination persist, we believe that in a community, challenges with low awareness level, inadequate screening programs and scarcity of resource, a combination of self- and annual-clinical breast exams may be the best option for Indian context. Evidence indicates that the NCD contribute to over 60% of the mortality in India and about 52% of all conditions can be managed at the primary care level. The provision of comprehensive primary health care reduces morbidity, disability and mortality at much lower costs and significantly reduces the need for secondary and tertiary care. It is necessary to integrate screening, early detection and management as close

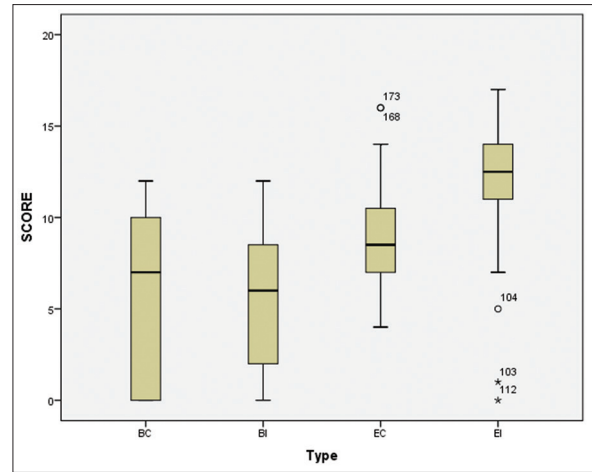


Figure 1: Score of Knowledge in Intervention and control group
BC: Baseline Control, BI: Baseline intervention, EC: End line control, EI: End line Intervention

to the community as possible to expand the access of basket of services.^[30] Moreover, after the introduction of Health and wellness center programme through GOI it would be a ray of hope for strengthening of subcenters as a facility and ASHA as primary care provider in close contact with community.^[26] On the same line, the National Health Policy of 2017 has proposed for the empowerment of ASHA's to undertake preventive education at the community level to address the serious shortage of human resource.

Breast cancer is the most common cancer in India and one of the approaches for prevention is screening and early detection. While organized screening in India is not ubiquitous, we need to rely on identification of signs of breast cancer by the women and early referral to the health system. In order to reach the large target population in India, ASHA workers are the main resource. If we can make the ASHA workers competent in SBE and identification of early signs of breast cancer, they in turn can educate these women and help in early identification So, it is a real time to think the ASHA as a change agent for breast cancer Awareness.

Conclusion and Recommendation

In conclusion, this study had shown that awareness regarding breast cancer and breast self-examination which is most sensitive and cost-effective method for early detection of cancer was known by few women and very few of them practice it regularly. Therefore it is important to educate the women about breast cancer and its risk factors, eliminate the misconception and promote screening for early detection.

Such refreshed and reinforced trainings should be imparted at a regular interval and screening of breast cancer should be included in the package of services offered at the primary care level by the Government. There should be posters in all urban health centers like as in primary health center regarding symptoms

and basic aspects of breast cancer awareness and there should be empowerment of ASHAs to undertake preventive education regarding breast cancer at the community level.

Strength and Limitations

This study has a few strengths. Prior to this, very few studies had been done for breast health education on health care workers in India. It provides a snapshot of specific knowledge gaps in health care worker and approaches to enhancing breast cancer awareness.

As the study was of a shorter duration, especially after training, change in the attitude and practices of the ASHA workers could not be measured over a time and attributed to the intervention given. Many times, there were meeting of ASHA at zonal level, so there could be a chance to spillover effect of study result.

This study could be done at grass root level. However, the study was purposive inclusion of only ASHA workers.

Ethical considerations

Written consent from participants were taken before the interview. Confidentiality of information of each participant were maintained. All participants were given a unique code/number to maintain anonymity. Ethics Committee of IIPHG approved the study.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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