

Original Research Article

Uptake of clinical breast examination services at an urban health centre following community-based awareness programme

Padmavathi V. Dyavarishetty^{1*}, Shobha S. Kowli¹, Prachi D. Sondankar²,
Padmaja K. Chowdary³, Anjali A. Nimbalkar¹, Varsha V. Pai¹

¹Department of Community Medicine, K. J. Somaiya Medical College and Research, Centre, Mumbai, Maharashtra, India

²Department of Community Medicine, Smt. Kashibai Navale Medical College and General Hospital, Narhe, Pune, Maharashtra, India

³Department of Community Medicine, Dr. Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation, Krishna, Andhra Pradesh, India

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*Correspondence:

Dr. Padmavathi V. Dyavarishetty,
E-mail: padmavathi@somaiya.edu

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ABSTRACT

Background: A significant proportion of women present in advanced stages of breast cancer due to lack of awareness and non-availability of preventive health checkups. Annual clinical breast examination (CBE) in women aged 40-60 years is estimated to reduce mortality in India comparable to that achieved by biennial mammography at considerably low cost. Aim of the project was to encourage women aged 30-70 years to regularly undergo annual CBE.

Methods: The five year project was implemented in Mumbai in an estimated population of 15120 distributed in slums and low income group buildings. The beneficiaries of the project were women aged 30-70 years. Two Interventions, i.e. breast cancer education and screening were implemented by the project. List of women eligible for breast cancer screening, was used to track the utilisation of services.

Results: Over the period of five years, 14249 one-one health education interactions took place and fourteen group health education sessions were conducted. 59.7% of the women had received health education at least once. Proportion of women trained in doing SBE was 51%. Proportion of women undergoing at least one CBE was 44.1%. Age was significantly associated with availing of services. Two women were detected with breast cancer.

Conclusions: This project demonstrated that it is possible to motivate a large number of women to undergo screening, and such health education programmes will slowly improve the awareness and change health seeking behaviour.

Keywords: Clinical breast examination, Breast cancer, India

INTRODUCTION

India's breast cancer mortality rate at 13.4 per lakh population is almost similar to that of the World (13/lakh population), even though the age standardized incidence rates of breast cancer for India (24.7/lakh population) is much lower than that of the World (46.3/lakh

population).^{1,2} Indian National Cancer Registry has reported an increasing number of breast cancer cases over the years.³ Most breast cancers develop after the age of 50 years in developed countries.⁴ The peak age in Asian women is 40-50 years as compared to 60 -70 years in Western countries.⁵ Breast Cancer in Indian women occurs

almost a decade earlier.⁶⁻⁹ A significant proportion of young females present in advanced stage of the disease.⁵⁻⁹

Methods available for early detection of breast cancer are mammography, clinical breast examination (CBE), and self-breast examination (SBE). The recommended strategy is screening with mammography every two years between 50-70 years of age.¹⁰ In Indian settings, due to limited facilities for mammography, high cost of mammography, and limited coverage by national health programme, the only option seems to be CBE and SBE.¹¹ Annual CBE in women aged 40-60 years in India is estimated to reduce mortality from breast cancer by 23.3% which is similar to that achieved with twice-yearly mammography screening (25.8%) at a potentially half the cost.¹²

High mortality in India is due to diagnosis in advanced stages of disease and non-availability of appropriate medical facilities.^{13,14} Diagnosis in advanced stages is due to delay in seeking treatment either due to unawareness, financial constraints, or general indifference towards the health of women.¹⁴ Lack of organised breast cancer screening programmes and paucity of diagnostic aids, are other important contributory factors for late presentation.^{10,14,15}

India established its first National Cancer Control programme in 1975, shifting its focus in 1984-85 on primary prevention and early detection of cancer.¹⁶ Currently the programme has been amalgamated into National Programme for Prevention and Control of cancer, diabetes, cardiovascular diseases and stroke and is implemented in 100 districts of India.¹⁷ On a smaller scale, breast cancer screening programmes are conducted by few non-governmental organizations or health care institutes. The gap in service delivery stills exists and needs to be addressed.^{11,18}

Awareness about breast cancer, its risk factors and importance of screening is poor.^{19,20} Study by Gupta et al, revealed low cancer literacy of breast cancer risk factors among Indian women, irrespective of their socio-economic and educational background.^{21,22} Studies have shown that health education and services for detection and treatment of breast cancer can promote early access to the treatment, even in illiterate and poor communities.^{9,16,23,24}

The aim of the project was to encourage women aged 30-70 years to regularly undergo annual clinical breast examination. In this article we describe the implementation and results of the five year project, focusing on the areas selected during the first year of the project.

METHODS

The institute has an urban field practice area located in F/North ward of Mumbai. The area has defined localities classified as slums and buildings. Buildings are further classified as high, middle and low income group buildings. There are several slums in the field practice area.

Population is predominantly Hindu by religion and speaks Marathi or Telugu. Within the area, there are government, private and non-governmental health care providers/centres. None of these health care providers/centres provide breast cancer screening facilities. Women lack awareness about the importance of preventive health checkups and do not undergo any screening. A preliminary survey of a small sample in the field practice in the first few months of the project revealed that the women were not aware about breast cancer, nor have they undergone CBE or mammogram.

The project was implemented from 2014 to 2018 in the urban slums of Mumbai after obtaining ethics committee approval. In the first year of the project, three slum areas and 14 buildings of low income group were selected based on its proximity to the Urban Health Training Centre (UHTC). The houses measure 100-180 square feet. The beneficiaries included all women aged 40 years and above residing in the selected area. In the second year of the project, more sites were added and the age criterion of the beneficiaries was changed to 30 years according to the National guidelines for screening of non-communicable disease.¹⁷ As the community became aware about the disease and services, women outside the selected sites started seeking services. The breast cancer screening services at the clinic were provided to all irrespective of age and geographical location.

Two interventions, i.e. breast cancer education and screening services for breast cancer were implemented by the project. A trained health care worker (HCW) conducted a one to one health education, at the household level, emphasising the importance of regular breast cancer screening. Risk factors; types of breast cancer; steps of SBE; prevention; and treatment of breast cancer were discussed with women in the local language using a flip chart. At the UHTC, a free weekly clinic for CBE was started. A mobile unit for free mammography was arranged in the community for the first three years of the project. In the last two years, referral services for mammography were provided.

The implementing team consisted of trained HCWs, Medical social worker (MSW), physicians and public health specialists. Two HCWs were appointed from the project area. The HCWs were married women; educated upto class 10; speaking local language and ability to read and write basic English.

HCWs received extensive initial training of eight half days. The health care workers were trained on how to educate women on breast cancer using the flip chart. Daily, a few pages of the flip chart and one of the data collection tools was explained to them. They were asked to practice in class how to give health talk and fill data collection tools, and then practiced on their neighbours/friends after going home. Next day, the training would begin with the HCW demonstrating the health education session that was taught to them on the previous day. Trainer then reviewed the

filled data collection tools before proceeding with the day's training. Modification of the data collection tools and the flip chart based on the trainee's feedback were done as the training progressed. The talking points in Marathi and Telugu were given to the HCWs. The HCWs also received training on how to teach women SBE. They practiced and did several demonstrations till they mastered perfection in teaching SBE. Every year refresher training courses were organized in which apart from the health education content, the HCWs were taught how to motivate women showing reluctance, fear and anxiety to undergo screening. Building the communication and motivational skills was an important component of further training focusing specifically on the issues that they faced in the field. Initial training and refresher training on contents of health education and tools of data collection were conducted by the research investigators along with the primary physician involved in the project. The three half day training on communication and motivational skills was conducted by experienced trained medical social workers.

Three days of the week were allotted for enumerating new households, collecting demographic data and giving one-one health education (First Visit). Two days of the week were allocated for routine second visits and the reminder visits. In the start of the project, many families displayed fear of discussing cancer. Therefore to establish rapport in the community, screening for hypertension and diabetes was introduced. HCW after giving a self introduction and stating the purpose of the visit, would explain to the women in the household about breast cancer and the need to undergo screening. She would offer to examine blood pressure and blood sugar of family members. She also collected the information on the demographic profile of the family members. A second visit was made to the household with an eligible beneficiary a day before the clinic day. At this time, a risk assessment form for the women was filled and women were trained on SBE. Results of the risk assessment for breast cancer have been published separately.²⁵ The eligible women received a reminder visit on the morning of the clinic. Women who failed to turn up received one more reminder visit the following week.

In the initial two years of the project, the women were visited quarterly to motivate and sustain their SBE practice. The women complained that other issues were not being addressed and felt that HCW was coming too often to their household and disturbing them. The frequency of visits to the home was reduced from quarterly follow up and two reminder visits to six-monthly follow-up visits and one reminder visit. Additionally, the HCWs were trained in other commonly seen health issues so that they could address the queries of the families.

The list of eligible women for breast cancer screening, was prepared from household data. This list referred to as the tracking sheet was maintained and updated at every visit by the HCWs to track the utilisation of breast cancer screening services. With the tracking sheet women who had not undergone CBE were identified and reminder and

follow up visits were planned accordingly. MSW supervised the HCWs and visited women who could not be motivated for screening by HCW. However, a record of the women visited by MSW was not maintained.

The weekly free clinic for CBE was held on Tuesday afternoon. Additional services like screening for cervical cancer, hypertension, diabetes and anaemia were added as the women felt that the clinic should provide more comprehensive services. The details of the women undergoing CBE was recorded in the clinic register and the information transferred to the tracking sheet. All the women detected with abnormalities in clinical breast examination were referred to the hospital located at a distance of 2 kms from the community. HCWs accompanied women to the hospital. The project supported the cost of investigation and travel expenses of the women. Women diagnosed with breast cancer received further financial support from the project, if they were found to be from a very low socio-economic group.

From the monthly project report, we measured the number of health education interactions; number of reminder visits/calls; number of group health education activities; number of CBE done.

From the tracking sheet of eligible women in the project area, the outcomes measured were the number of women who received health education at least once; number who underwent CBE; Number who reported doing regular SBE. The data on CBE was obtained from the clinic register.

The population residing in the estimated area was obtained from the household summary sheet, which recorded all the structures/houses in the area, and the population of that household.

The data was entered into excel sheets and analyzed using descriptive statistics. The data is analysed to see if there is any significant difference in the utilisation of services for CBE with reference to age and type of residential location i.e. slums or buildings. Appropriate statistical tests like standard error of proportion, and chi-square have been used.

The following three guideline were referred to for writing the article; Standards for reporting implementation studies (STaRI) statement; Improving the reporting quality of non-randomised evaluations of behavioural and public health interventions: the TREND statement; and Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide.²⁶⁻²⁸

RESULTS

The total number of structures/houses were 3717, of which communication happened with 1945 families. The population enumerated was 7916 and average family size was 4.07. The estimated total population residing in the project area was 15120.

Table 1: Age distribution of women enumerated in the project area.

Age group (years)	Buildings (%)	Slums (%)	Total (%)
30-39	275 (40.2)	554 (47.9)	829 (45.1)
40-49	195 (28.5)	323 (27.9)	518 (28.2)
50-59	138 (20.2)	185 (16.1)	323 (17.6)
60-69	76 (11.1)	94 (8.1)	170 (9.1)
Total	684 (100)	1156 (100)	1840 (100)

X²=14.12, df=3, p=0.002.

Table 2: Area and age distribution of women undergoing at least one clinical breast examination.

Age group (years)	Buildings (%)	Slums (%)	Total (%)
30-39	79/275 (28.7)	181/554 (32.7)	260/829 (31.4)
40-49	98/195 (50.3)	176/323 (54.5)	274/518 (52.9)
50-59	74/138 (53.6)	96/185 (51.9)	170/323 (52.6)
60-69	48/76 (63.2)	58/94 (61.7)	106/170 (62.4)
Total	299/684 (43.7)	511/1156 (44.2)	810/1840 (44.1)

SEP=0.0239, z=8.73, p=0.83.

Over the period of five years, 14249 one-one health education interactions took place. Many women received

Table 4: Number of times women underwent CBE during the period of stay in the project area.

Duration of stay in project area	CBE done						Total number of women
	Zero times	One time	Two times	Three times	Four times	Five times	
One year	155	56	3*	-	-	-	214
Two years	106	61	19	2*	-	-	188
Three years	150	50	15	6	-	-	221
Four years	352	132	47	23	7	2*	563
Five years	267	203	85	41	35	23	654
Total	1030	502	169	72	42	25	1840

*Women came to the clinic for CBE even after shifting from the project area.

59.7% of the women had received health education at least once. Reinforcement and motivating women to undergo CBE was done during quarterly and six monthly visits by HCW. The number of women who were trained in doing SBE was 51%. The proportion of women undergoing at least one CBE was 44.1%. Excluding the working population who were not able to access the service, the proportion of women undergoing at least one CBE was 53.6%. The proportion of women undergoing CBE in the age group of 40-69 years was 54.4%. Area of residence, i.e. buildings or slums was not found to be associated with availing of CBE services by the women as seen in table 2.

multiple health education sessions to motivate them for CBE. Fourteen group health education sessions were also organised in the area, in which 416 women participated. 10495 reminder visits and 433 reminder phone calls were done during the project period.

The estimated population of the areas selected in the first year is 9350. As seen in table 1, the number of women aged 30-69 years was 1840. Around 45% of the enumerated women are between the age group of 30-39 years and 46% are between 40-59 years. There was a statistically significant difference in the age of the population residing in buildings and slums. 48% of the population resides in the house owned by them. Of the enumerated women, 85 (4.6%) were unmarried, 18% working and 51% illiterate.

Table 3: Age distribution of women undergoing clinical breast examination in project area.

Age group (years)	Number of women undergoing atleast one Clinical Breast Examination (%)		Total (%)
	Yes	No	
30-39	260 (31.4)	569 (68.6)	829 (100)
40-49	274 (52.9)	244 (47.1)	518 (100)
50-59	170 (52.6)	153 (47.4)	323 (100)
60-69	106 (62.4)	64 (37.6)	170 (100)
Total	810 (44.1)	1030 (55.9)	1840 (100)

X²=103.4,df=3, p=0.000001.

However age group was associated with number availing services, as seen in table 3.

As seen in table 4, the proportion of women undergoing annual CBE was 26.2%; 11.2%; 9.5%; 1.6% and 3.5% respectively during the one, two, three, four and five years stay in the project area. The calculated rate of occurrence of the event, which in this case is annual CBE during the period of stay was 19.9% (21.2% - buildings and 18.6% - slums). Two cases of breast cancer were detected amongst the enumerated beneficiaries.

DISCUSSION

Through the health care workers, the project was able to reach out to the majority of the women who were available during the day. Some of the women were unavailable, even though multiple visits were done. The present project was able to educate 60% of the eligible women, which differs quite significantly from the 90% participation rate as shown in the study by Kulkarni et al.²⁹ This could be due to the difference in geographic area of the two studies. Kulkarni's et al strategy of organising screening camps within the community and evening camps could be also a possible explanation for higher participation rate.²⁹

Health education, resulted in motivating a large proportion of women to undergo CBE. The study in Iran showed results similar to present study, where the compliance to screening was more in those aged 40 years and above.³⁰ The study in Mumbai and Trivandrum showed higher compliance in the age group 30-39 years, whereas our study showed compliance to increase with age.^{24,31} This is because most of the women in the older age group were available during our visits and multiple interactions happened with these women. Availability and multiple interactions could probably be the reason for higher participation rate.

Though the proportion of women undergoing at least one CBE is 44%, the proportion of women doing repeat annual CBE decreased over the years. This could be explained by the fact, learnt during informal discussion with the women, who said repeat examinations were not required as the previous CBE was normal. The findings of our study are similar to the study in Iran where 40% of the women receiving health education participated.³⁰ Our findings differ significantly from the Mumbai and Trivandrum project where participation rate for CBE was 71.4% and 97%.^{24,31} The lower CBE rates in present study as compared to other studies could also be explained by the fact that almost 52% of the women were living in rental house, where they usually stay for a period of 11 months.

CONCLUSION

This project demonstrated that health education will ultimately lead to increasing the uptake of clinical breast examination amongst community women. Constant movement of the population in urban areas, makes it difficult to follow up. Reaching to working women poses a big challenge as the women leave very early in the morning and come very late in the evening. Despite all these constraints it is possible to motivate a large number of women to undergo screening, and such health education programmes will slowly improve the awareness and change health seeking behaviour.

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