International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Effectiveness of Community based Health Education Intervention about Breast Cancer among Women of Reproductive Age Group Residing in Urban Slum Area

Kavita D. Pandit[1], Dr Prakash M. Durgawale[2]

[1]Undergraduate Student, Krishna Institute of Medical Sciences Deemed University Karad, Maharashtra, India

[2]Professor & Head Comm. Med, Krishna Institute of Medical Sciences Deemed University Karad, Maharashtra, India

Abstract: ***Breast cancer is one of the most common cancers and a leading cause of death among women worldwide as well as in India. The incidence of breast cancer is rising at an alarming rate with a high number of cases presenting in advanced stages. Aim and Objectives: To find out the existing knowledge regarding breast cancer and related health practices and assess the effectiveness of community based educational intervention. Materials and Methods: The present study was carried out in the period March to May 2016 and participants included 60 women of reproductive age group belonging to urban slum area of Karad, Maharashtra adopted under Urban Health Centre, Department of Community Medicine, Krishna Institute of Medical Sciences. Educational intervention was provided in the form of group lectures, charts and interactive sessions. Baseline and post-education knowledge was assessed with a self-administered structured questionnaire in the vernacular language. Results: The average age of study participants was 29.5 years.Majority (46.67%) of the females belonged to the age group 25-34 years. 78.3% of the women were educated and 25% had a monthly family income of > Rs. 5000,while,females belonging to the joint and nuclear family type were 48.3% and 46.7% respectively. Pre-test 26.7% had knowledge regarding breast cancer which showed a significant increase to 80% post-test (P<0.0001). Also, breast self-examination was performed by less than 5% of the participants prior to the intervention. Married women and women belonging to younger age group showed a higher pre-intervention awareness. During initial assessment, knowledge of health practices was found to be highly inadequate. However, it was significantly associated with education and better socio-economic conditions. Conclusion: The interventional programme appeared effective in improving knowledge regarding breast cancer and associated health practices. However, it also gave insight into the prevalent myths regarding breast cancer and the existing non-performance of health practices. To bring down the incidence and mortality associated with breast cancer in India, health workers need to identify and eliminate the social and cultural barriers that hinder the development of breast cancer awareness.***

Keywords: Breast cancer, Awareness, Knowledge, Health education, Urban slum areas, Intervention programme, Breast self-examination, Reproductive age group.

1. Introduction

Learning is the addition of new knowledge and experience Interpreted in the light of past knowledge and experience. Teaching and learning is an integral part of nursing. Nurses have the responsibility to educate patients related to various aspects and keep themselves updated. Various teaching strategies are used to increase knowledge, such as lecturing, demonstration, discussion and self-education. These methods of self-education has an advantage over the others as the learner can educate himself at his own pace and it also stresses on rereading [1].

Breast cancer is the second most important cancer among Indian women[2]. Breast cancer is by far the most frequent cancer among women, with an estimated 1.67 million new cases diagnosed in 2012 with 144,937 occurring in India itself. About 70,218 women died of this cancer, mortality rate being 12.7 per lac population [3]. Cancer of breast constitutes 14.3 % to 30.0% of all cancers in women [4]. The wide demographic it affects as well as the associated morbidity and mortality makes it a particularly difficult journey, both for the one who is suffering as well as the care givers. In addition to that, the prevalence of widespread incorrect notions regarding breast cancer, especially in India, further complicate the situation and lead to much severe consequences.

Established risk factors for breast cancer include women with first degree relatives' who have breast cancer, certain gynaecologic and endocrine factors including age at menarche and late menopause. While early pregnancy that produces a live born, is associated with reduced incidence. Certain lifestyle factors are believed to be protective, including weight control, physical activity, and avoidance of smoking [5].

Awareness deficits as well as the presence of stigma, fear, gender inequity and a low level of engagement in health practices, contribute to high mortality rates [6]. Correct knowledge and awareness regarding breast cancer is a battle half won.

Kadam,A.(2014) found that Structured education programme was highly effective to improve the knowledge score and to improve the attitude score of subjects/ caregiver towards colostomy care of patient [7]. Anjum,S. conducted study to assess knowledge of contraceptives methods and appraisal of health education among married women and concluded After

the health education married women knowledge was improved to 100% about female sterilization followed by condom 99%, skin implants 86%, oral pills 85% and emergency contraceptives 85%.Sociodemographic variable were significantly associated with existing knowledge and level of married women specially age at marriage, age at first child, occupation,, income ,education [8][9]. Babu, R. L. the findings of the study concluded that care takers had inadequate knowledge regarding non-curative care of terminally ill cancer patients. The planned education programme on non-curative care of terminally ill cancer patients was highly effective in improving the knowledge of care takers regarding non-curative care of terminally ill cancer patients [10]. Shinde, concluded that demonstration regarding feeding of hemiplegic patient among caregivers was effective in increasing the skill of the caregivers regarding feeding of hemiplegic patient [11]. Deshmukh, M., & Shinde, M. (2014) concluded that the structured education was effective on knowledge and practice of staff nurses regarding venous access device care [12]. Bhudhagaonkar, J., & Shinde, M. (2014). Concluded that Structured Education Regarding Menstrual Hygiene Practices was effective among Adolescent Girls [13].

The health care facility pattern in a country as vast and wide as India, with its multiple ethnic and cultural differences, is heterogeneous, with numerous regions where the benefits of breast cancer awareness and multidisciplinary treatment programs have not yet reached [15].The World Health Organization stresses on promoting vigilance in the community and encouraging early diagnosis of breast cancer[16].

In areas such as Karad, located in Satara district along the western belt of Maharashtra, the need to spread awareness is particularly strong due to the rural-urban amalgamation it represents. Urbanisation has also lead to changes in lifestyle and subsequently and increase the number of new breast cancer cases. However, the existing rural beliefs and attitudes prevent people from seeking medical advice in time and thus progression of cancer to advanced stage. However, it is a rapidly growing region where recently measures for health care are being undertaken. These measures albeit are in their nascent stage with very little data available regarding the current knowledge of breast cancer in this population and an absence of specifically breast cancer directed programmes.

Thus, this study aims at finding out the existing awareness about breast cancer and to assess the effectiveness of educational intervention in improving breast health knowledge. It also attempts to correct the gaps in knowledge and aid in the designing and conduction of health programmes.

2. Materials and Methods

The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of investigation[14].

The present cross-sectional study was conducted through a pre-post intervention experimental design during the period March to May 2016, in the urban slum area of Karad, adopted under Urban Health Centre, Department of Community Medicine, Krishna Institute of Medical Sciences., Karad, District Satara, Maharashtra. The population comprised mainly of educated, married women who were either housewives or involved in semi-skilled labour. However, most also belonged to lower socio-economic classes and had poor access to health care.

The sample size for the study was calculated by using the formula N= 4pq/L2 (p=prevalence, q=1-p, L= allowable error) which was 60 .So 60 literate women of reproductive age group (15-44 years) were selected. Follow-up was ensured as these women were regular attendees at the UHTC. Before initiating the study, ethical clearance was obtained from the institutional ethical committee

A pre-validated structured questionnaire in vernacular language i.e. Marathi to suit the study group was used initially to study the level of knowledge regarding breast cancer. It was again used after educational intervention. Health education was provided through lectures, charts, power point presentations and sessions conducted in the UHTC. The lecture sessions were carried out by dividing the study population in smaller groups over a period of 15-20 days study subjects at a time for 1 hour by the investigator having information about breast cancer, its etio-pathogenesis, risk factors, BSE, common misconceptions.

Data was entered and compiled in the Microsoft Excel software. Data analysis was carried out using Software statistical package for social sciences (SPSS-16) and instat using suitable statistical test such as chi square test, t test. Data was condensed in the form of tables and was also presented in the form of graphs/diagrams.

3. Results

Participants included 60 women belonging to urban slum area of Karad taluka, Satara. All of these women belonged to reproductive age group of 15-44 years.

Table 1: Age-wise distribution

Age Group	N	%
15-24	15	25
25-34	28	46.67
35-44	17	28.33
Total	60	100

The average age of study subjects was 29.5 years. Maximum (46.67%) females belonged to the age group 25-34 years followed by 28.33% females in age group 35-44 years and 25% females in younger age group of 15-24 years as is evident from Table 1.

Table 2: Income-wise distribution

Income(Per Month) Rs.	N	%
≤5000	45	75
>5000	15	25
Total	60	100

Table 2 shows income wise distribution of subjects. Among the 60 subjects studied, a majority of 75% of females had a

monthly family income of ≤ Rs. 5000 while only 25% had a monthly family income higher than Rs. 5000. Taking other criteria of standard scales into consideration, it was found that a high number of women belonged to low socio-economic levels.Majority of the women studied were educated and most had received at least primary level education. They were mostly housewives but some were involved in semi-skilled labour.

Table 3: Distribution based on type of family

Family type	N	%
Nuclear	28	46.66
Joint	29	48.33
Three generation	3	5

Table 3 shows distribution of study group based on family type. Among the 60 subjects studied, greater number of females belonged to the joint (48.33%) and nuclear (46.66%) family type as compared to three generation families (5%).

Table 4: Distribution based on marital status

Marital Status	N	%
Unmarried	11	18.33
Married	49	81.66
Total	60	100

Table 4 shows distribution of women according to marital status. Of the 60 females studied, maximum (81.66%) were married. 18.33% females were either unmarried, divorced or widowed.

None of the women studied gave history of smoking but many admitted to use of mishri (tobacco mixture). None of the females had received hormonal therapy.

Table 5: Pre and Post test results of subjects according to age group

Age	Pre Mean ± s.d.	Post Mean ± s.d.	Diff Mean ± s.d.	T	D.f.	
15-24	2.7 ± 1.6	9.9 ± 0.9	-7.3 ± 1.5	18.35	14	
25-34	2.5 ± 1.9	9.6 ± 1.1	-7.1 ± 1.9	19.28	27	P
35-44	2.8 ± 1.8	10.3 ± 1	-7.5 ± 1.5	19.92	16	<0.0001

Table 5 shows that mean pre-test results of the age groups 15-24, 25-34 and 35-44 were 2.7 ± 1.6, 2.5 ± 1.9 and 2.8 ± 1.8 respectively. While, the mean post-test results of the age groups 15-24, 25-34 and 35-44 were 9.9 ± 0.9, 9.6 ± 1.1 and 10.3 ± 1 respectively. This indicates that the mean pre-test and post-test results were lowest in the age group 25-34 and highest in age group 35-44.Thus, older age was found to beassociated with better scores. P value is <0.0001 which is highly significant.

Table 6: Pre and Post test results of subjects according to income

Income (rs.)	Pre Mean ± s.d.	Post Mean ± s.d.	Diff Mean ± s.d.	T	D.f	P
≤5000	2.6 ± 1.8	10 ± 1	-7.4 ± 1.7	29.12	47	<0.0001
>5000	2.9 ± 2	9.6 ± 1.1	-6.7 ± 1.5	15.42	11	

As evident in Table 6, Women with income ≤ rupees 5000 had mean pre and post-test scores of 2.6 ± 1.8 and 10 ± 1 respectively. While, women with income greater than rupees 5000 had mean pre and post-test scores of 2.9 ± 2 and 9.6 ± 1.1 respectively. Thus, pre-test scores were higher in women belonging to higher income strata.

Table 7: Pre and Post test results of subjects according to type of family

Family Type	Pre Mean ± s.d.	Post Mean ± s.d.	Diff Mean ± s.d.	T	P
Nuclear	2.9 ± 2.2	10.1 ± 1	-7.3 ± 2.1	17.58	<0.0001
Joint	2.4 ± 1.5	9.7 ± 1	-7.3 ± 1.5	27.25	
Three generation	2.5 ± 0.6	9.5 ± 1	-7 ± 0.8	17.15	<0.0004

Table 7 shows that women from nuclear, joint and three-generation type of family had mean pre-test scores of 2.9 ± 2.2, 2.4 ± 1.5 and 2.5 ± 0.6 respectively. While, the mean post-test results of women from nuclear, joint and three-generation type of family were 10.1 ± 1, 9.7 ± 1 and 9.5 ± 1 respectively. Thus, nuclear families had higher pre-test and post-test values than the other family types.

Table 8: Pre and Post test results of subjects according to marital status

Marital Status	Pre Mean ± s.d.	Post Mean ± s.d.	Diff Mean ± s.d.	T	D.f.	P
Unmarried	2.5± 2.1	10± 0.9	-7.5± 1.8	11.46	7	<0.0001
Married	2.7± 1.8	9.9± 1.1	-7.2± 1.7	30.25	51	

Table 8 shows that mean pre-test results of unmarried and married women are 2.5 ± 2.1 and 2.7 ± 1.8 respectively. While, the mean post-test results of unmarried and married women are 10 ± 0.9 and 9.9 ± 1.1 respectively.

4. Discussion

Present cross-sectional study adopting pre and post-test design was undertaken to assess the effectiveness of educational intervention on women of reproductive age group residing in urban slum area, Karad taluka, Satara district situated in western belt of Maharashtra. It was conducted over a period of two months from March to May 2016 with 60 participants selected from the urban slum area and belonging to age group 15-44 years.

Out of 60 females studied, 46.67% belong to 25-34 years age group, 28.33% belong to 35-44 years age group while 25% belong to 15-24 years age group. Women in younger age group had lower pre and post-test results due to unavailability of informative aids. Majority of the females were educated, however only a few were employed. Educated and employed females had better scores before and after intervention indicating a favourable association. This is consistent with a study carried out by Okabia et al. in Nigeria[17] where education and employment influenced knowledge of breast cancer positively.

Although prior to the intervention, 38.33% females had heard that breast cancer was common among women, only 26.67% knew about it. This was an anticipated finding as the

study was carried out in an urban slum with little access to such information. After the intervention, 83.33% women were aware of cancer, 80% knew about breast cancer, 91.67% were aware that it was a common cancer in females. Very few females knew about the risk factors of breast cancer prior to education with only 15%naming obesity and 11.67% naming late childbirth (>30 years) . They attributed this to a dearth of health related conversations in the community. However, post-intervention, this number raised to 73.33% and 71.67% respectively. Many also expressed willingness to obtain further guidance and to discard previous beliefs. Results of our study are congruent with study conducted by Benghazi [18].

An unanticipated finding was that initially, 56 women, including educated women, claimed that breast cancer was communicable. However, post intervention, 65% women recognised it as a non-communicable disease. Also, pre-intervention, 16.67% females knew about the protective role of breast feeding. But, its congruence with traditional beliefs led to more women readily accepting this fact and answering correctly post-intervention (95%). BSE was known only to 3.33% women pre-intervention. This was attributed to the taboo associated with discussion of breast cancer and related self-care practices. Detailed explanation and counselling forBSE, increased the post intervention result to 78.33%. Though, prior to education many females disagreed that cancer was curable, post education 86.67% believed that with early detection and proper intervention it was indeed curable. This also directly impacted the post-test result where 90% women agreed that early detection was beneficial whereas earlier only 38.33% felt so. Women also showed increased willingness, from 41.67% women pre-test to 86.67% women post-test, to seek medical intervention when diagnosed with breast cancer.

The prevalence of ill notions was evident from the fact that most women thought breast cancer was communicable, incurable and not preventable. Knowledge of BSE was very low as was the willingness of women to seek medical assistance. A substantial improvement was seen in the overall test results after the education programme[19].

5. Conclusion

The results and observations of this study conclude that it was effective in raising women's awareness about breast cancer. However, the pre-intervention breast cancer awareness and BSE knowledge was found to be inadequate in our study. Prior to the health education most women had heard about breast cancer but did not know what it was. Few knew how frequently it occurred and an even lesser number of female could name its risk factors. Many were not aware of the protective role of breast feeding. The prevalence of ill notions was evident from the fact that most women thought breast cancer was communicable, incurable and not preventable. Knowledge of BSE was very low as was the willingness of women to seek medical assistance. A substantial improvement was seen in the overall test results after the education programme.

This shows the need for and efficacy of imperative health education to women irrespective of age group. Also, BSE is a simple and cost effective method of early detection of BC. Community based awareness programmes directed at knowledge of BC and BSE should address groups at work places, villages, colleges, etc. and mass media should be utilized to ensure a wider reach.

The ANMs and primary level health workers can play a significant role by instructing women about BSE, providing them reassurance and health care guidance. Primary prevention strategies as well as early detection and administration of health care can significantly reduce the associated morbidity and mortality. Further studies should also be employed to explore the reasons for low knowledge and awareness of breast cancer as well as to chalk out effective strategies to eradicate the preventable risk factors. Research should also be carried out to ensure proper dissemination of information and aids especially in rural areas where 2/3of Indian population still resides.

6. Acknowledgement

We are thankful to the Department of Community Medicine, KIMS for their direct or indirect contribution to the successful completion of this study.

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Author Profile

Kavita D. Pandit is Undergraduate Student, Krishna Institute of Medical Sciences Deemed University Karad, Maharashtra, India

Dr Prakash M. Durgawale is Professor & Head Comm. Med, Krishna Institute of Medical Sciences Deemed University Karad, Maharashtra, India