

Impact assessment of Breast Cancer Awareness among college students in North East India

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Abstract

Background

With increasing incidence of breast cancer, awareness is of paramount importance for detection of breast changes, early diagnosis and treatment.

Objective

1. To assess knowledge of risk factors breast cancer among college students, breast self-examination and prevention of breast cancer among college students
2. To assess the impact of the orientation lecture on the above with post evaluation form

Method

It was a cross sectional type of study conducted during a Breast Cancer Awareness program that was organised in a local college in November 2017. 108 students registered for the program. A pre-session structured questionnaire was distributed among all the participants and responses were collected after taking informed consent. All the participants of the session were above the age of 18 years, irrespective of their gender and willing to answer.

After the session, the same questionnaire was redistributed among the participants and the responses were collected. The aspects that were interrogated were knowledge of breast cancer, its risk factors and preventive measures.

Results

A total of 108 participants participated in the study comprising of both males and females, most common age group was 18-22 years. Among the participants, before the session 76(70.37%) were aware that the two most common cancers are cervical and breast cancer and 8(7.40%). 36(33.33%) considered family history as the risk factor for breast cancer, 32(29.62%) considered lifestyle (smoking and alcohol) as the risk factor, 2(1.85%) considered Sexually transmitted diseases as the risk factor but only 38(35.18%) knew that all the above mentioned were risk factors of breast cancer.

Before the session only 2(1.85%) participants knew that breastfeeding could reduce the risk of breast cancer while 82(75.92%) didn't know about effects of breastfeeding,

24(22.22%) thought that it had no role. 86(79.62%) participants thought that they cannot do anything to prevent breast cancer and 20(18.50%) were aware that breast self-examination helps in breast cancer prevention. Post session questionnaire analysis gave a different picture altogether. All 108 (100%) participants were now sure that cervical and breast cancer is the two most common cancers in Indian women. 72(66.66%) participants considered all the mentioned conditions as the risk factors for breast feeding. Post session 102(94.44%) participants were aware that breastfeeding reduced the risk factor of breast cancer. 82(75.92%) participants were aware that breast self-examination can prevent breast cancer while 26(24.07%) considered visiting a physician regularly as the preventive measure for breast cancer.

Conclusion

Awareness about the role of modifiable risk factors, breast feeding and BSE in prevention of breast cancer is lacking. Hence, in order to prevent breast cancer more awareness programmes must be organised along with focus on risk factors of breast cancer so that prevalence can reduce. Preventive measures of breast cancer should be encouraged.

Introduction

Breast cancer is one of the leading cancers in women worldwide. Breast cancer awareness programmes are an effort to raise awareness and reduce the stigma of breast cancer through education on symptoms and treatment. Greater knowledge and awareness leads to earlier detection of breast cancer, which is associated with higher long-term survival rates, and better prognosis. According to the National Cancer Registry Programme and three-Year Report of the Population Based Cancer Registries 2012 – 2014 and Consolidated Report of the Hospital Based Cancer Registries 2012 – 2014, incidence of breast cancer is on the rise, along with change in age distribution

trends. Lack of screening and late detection leads to poor prognosis. All this factor considered together make awareness programmes of utmost importance. Our study has been conducted during a Breast Cancer Awareness program that was organised in a local college in November 2017.

Methodology

Inclusion criteria: All the participants of the session who were above the age of 18 years, irrespective of their gender and willing to answer.

Exclusion criteria: Participants below the age of 18 years or unwilling to answer.

Withdrawal criteria: Any participant can withdraw from the study if he/she feels there has been any breach of privacy or feel uncomfortable to answer the questions.

It was a cross sectional type of study conducted during a Breast Cancer Awareness program that was organised in a local college in November 2017. 108 students registered for the program. A pre-session structured questionnaire was distributed among all the participants and responses were collected after taking informed consent. After the session, the same questionnaire was redistributed among the participants and the responses were collected. The aspects that were interrogated were knowledge of breast cancer, its risk factors and preventive measures.

Analysis was done using SPSS software.

Null hypothesis: H0: There is no difference in awareness level before and after session.

Alternate Hypothesis: H1: There is significant difference in awareness level before and after session.

Level of significance is set at alpha, $p < 0.05$
Testing of level of significance by Chi Square test

Breast Cancer Awareness Program MSAI, NEIGRIHMS

Questionnaire

1. What are the two most common cancers in Indian women?
 - a) Cervical & breast
 - b) Oral & esophageal
 - c) Uterine & ovarian
 - d) Lung & leukemia
2. Which of the following are risk factors of breast cancer?
 - a) Family history
 - b) Lifestyle (smoking and alcohol)
 - c) Sexually transmitted diseases (STDs)
 - d) All the above
3. Does breast feeding have any effect on reducing the risk of breast cancer?
 - a) Yes
 - b) No
 - c) Do not know
4. What can I do to prevent breast cancer?
 - a) Breast self-examination
 - b) Visit a physician regularly
 - c) It cannot be prevented
 - d) X ray

Results

A total of 108 participants participated in the study comprising of both males and females. Both for male and female the most common age group was 18-22 years.

The following observations were been made from a statistical point of view.

Among the participants, before the session 76(70.37%) were aware that the two most common cancers are cervical and breast cancer and 8(7.40%), 14(12.96%), 10(9.25%) thought that oral and esophageal cancer, uterine and ovarian cancer and lung cancer and leukemia were most common cancers in Indian women respectively.

Awareness	Pre Session	Post Session
Cervical & Breast Cancer	76	108
Oral & Esophageal Cancer	8	0
Uterine & Ovarian Cancer	14	0
Lung & Leukemia	10	0

Table 1: Awareness of the most common cancer among Indian women

36(33.33%) considered family history as the risk factor for breast cancer, 32(29.62%) considered lifestyle (smoking and alcohol) as the risk factor, 2(1.85%) considered Sexually transmitted diseases as the risk factor but only 38(35.18%) knew that all the above mentioned were risk factors of breast cancer.

Lifestyle(smoking and alcohol)	32	10
Sexually transmitted diseases	2	4
All the above	38	72

Table 2: Awareness of the risk factors of breast cancer (p value- .000111)

Before the session only 2(1.85%) participants knew that breastfeeding could reduce the risk of breast cancer while 82(75.92%) didn't know about effects of breastfeeding and 24(22.22%) thought that it had no role.

Table 3: Awareness of the effect of breastfeeding on reducing the risk of breast cancer (p value- .0001)

Awareness	Pre Session	Post Session
Family history	36	22
Awareness	Pre Session	Post Session
Yes	2	102
No	24	6
Do not know	82	0

Interestingly 86(79.62%) participants thought that they cannot do anything to prevent breast cancer and 20(18.50%) were aware that breast self-examination helps in breast cancer prevention. 2(1.85%) participants had the notion that X-Ray could prevent breast cancer before the session.

Post session questionnaire analysis gave a different picture altogether. All 108 (100%) participants were now sure that cervical and breast cancer are the two most common cancers in Indian women.

Even after the session 22(20.37%) considered family history as the risk factor, 10(9.25%) considered lifestyle (smoking and alcohol) as the risk factor while 4(3.70%) considered sexually transmitted diseases as the risk factor. 72(66.66%) participants considered all the above mentioned as the risk factors for breast feeding.

Post session 102(94.44%) participants were aware that breastfeeding reduced the risk factor of breast cancer while 6(5.55%) were not aware that breastfeeding reduced the risk factor of breast cancer. 82(75.92%) participants were aware that breast self-examination can prevent breast cancer while 26(24.07%) considered visiting a physician regularly as the preventive measure for breast cancer.

Table 4: Awareness of the prevention of breast cancer

Awareness	Pre Session	Post Session
Breast Self-examination	20	82
Visit a physician regularly	86	26
It cannot be prevented	0	0
X Ray	2	0

Level of significance is set at alpha, $p < 0.05$; testing of level of significance by Chi Square. From the Chi square distribution table probability level alpha, it has been found that that the level of significance for all the tables is

$p < 0.05$. P value for table 2 was .000111 and table 3. Was .0001 which is significant. Hence, we reject the null hypothesis and accept the alternate hypothesis which means that there is a significant impact on awareness level post session. The power of the study i.e. Beta was also found to be good based on the difference between observed and expected values.

Discussion

We undertook the Breast Cancer Awareness Programme to educate the students about the modifiable risk factors of breast cancer, so that its incidence can be decreased.

In his study, ‘Development & Validation of a culturally tailored Breast Cancer Health Education Programme for Arab women’ Alkhasawneh E (1), the study was aimed to develop and validate a health education programme and encourage Breast Cancer Awareness & early detection in Arab women. In his study also, pre and post session knowledge score was used and compared.

In Cochrane data dept. review (2) O’ Mahony M et al analysed interventions for raising breast cancer awareness in women. He included two Randomised Controlled Trials (RCT). In one RCT, randomised women were to receive a written booklet (intervention group 1), written booklet and usual care plus a verbal interaction with the research psychologist (intervention group 2) or usual care (control group). In the second RCT randomised women to either an educational programme (through sessions of 60-90 minutes). The author concluded that based on the results of two RCTs a brief intervention has the potential to increase women’s’ Breast Cancer Awareness, though they had further studies including larger sample, validated outcome measures and and longitudinal approaches are warranted.

In a study titled, ‘I do not even say it’- a mixed methods study on Breast Cancer Awareness of Omani Women (3), the author faced that general awareness was significantly

associated with age, education, income and familiarity with cancer patients (<0.05) while early detection was significantly associated with age, marital status and education.

A study was conducted in Hawassa, Ethiopia in October 2014 to assess 'Effectiveness of Planned teaching intervention on Knowledge, Attitude and Practices of Breast Self-Examination' among First year female Midwifery students (4) using systematic random sampling. A standardised questionnaire was used as a tool. The study found up to 82% rise in observed breast changes after intervention.

A cross sectional study was designed to assess the impact of Breast Cancer International BCI programme, a Ghanaian NGO dedicated to raising breast cancer awareness, on Knowledge, Attitude and Practices in women from rural communities of Ghana (5). A group received BCI programme (intervention group) and the other group received the programme post survey (referent group). appears as a painless breast lump when compared to 82.3% from intervention group. The BCI programme improved KAP towards breast cancer.

A cross sectional study, titled "To investigate the awareness and knowledge level of breast cancer among Chinese participants" (6) was based on the database of the minister-affiliated hospital key project of the Ministry of Health of the People's Republic of China that included 21 Chinese hospitals between April 2012 and April 2013. univariate and multivariate logistic regression analyses were performed to know the level of breast cancer knowledge and find the breast cancer awareness-associated factors. 80.0% (2383/2978) of the participants had poor awareness level of breast cancer. In-depth knowledge of breast cancer such as early symptoms and risk factors was poorly found among them. Television broadcast and relatives or friends

with breast cancers were the main sources of information about breast cancer.

A study conducted by the Department of Community Medicine, MVJ Medical College and Research Hospital, Bengaluru, Karnataka, India (7) found that, the awareness of the breast cancer was good but the knowledge of signs and BSE was poor, only 18% women knew about BSE and 11% women practice it, which is utmost important for early detection and in reduction of mortality.

The Department of Community Medicine, Maulana Azad Medical College and Associated Hospitals conducted a study (8) titled, 'Knowledge and Practices Related to Screening for Breast Cancer among Women in Delhi, India' found that rates for knowledge of known risk factors of breast cancer were: family history of breast cancer, 59.5%; smoking, 57.7%; old age, 56.3%; lack of physical exercise, 51.9%; lack of breastfeeding, 48.2%; late menopause, 37.4%; and early menarche, 34.7%. Breast self-examination (BSE) was regularly practiced at least once a month by 41.4% of the participants.

Conclusion

Some awareness about the role of modifiable risk factors, breast feeding and BSE in prevention of breast cancer is present. However, in order to prevent breast cancer more awareness programmes must be organised so that prevalence can reduce. Preventive measures of breast cancer should be encouraged. The knowledge derived from this study will inform health care stakeholders, including researchers, policy makers, investors on the impact of health interventions on cancer awareness and thereby increase foot falls in cancer screening programs.

References

1. Alkhasawneh E, Al-Farsi Y, Al-Simadi F, Leocadio M. Development and Validation of a Culturally-Tailored Breast Cancer Health Education Programme

- for Arab Women. Sultan Qaboos Univ Med J. 2017 May;17(2): e181-e190. doi: 10.18295/squmj.2016.17.02.008. Epub 2017 Jun 20.
2. O'Mahony M, Comber H, Fitzgerald T, Corrigan MA, Fitzgerald E, Grunfeld EA, Flynn MG, Hegarty J. Interventions for raising breast cancer awareness in women. *Cochrane Database Syst Rev.* 2017 Feb 10;2:CD011396. doi: 10.1002/14651858.CD011396.pub2.
 3. Alkhasawneh E, Siddiqui ST, Leocadio M, Seshan V, Al-Farsi Y, Al-Moundhri MS. I Do Not Even Say "It" - a Mixed Methods Study on Breast Cancer Awareness of Omani Women. *Asian Pac J Cancer Prev.* 2016;17(4):2247-54.
 4. Abera H¹, Mengistu D², Bedaso A¹. Effectiveness of planned teaching intervention on knowledge and practice of breast self-examination among first year midwifery students. *PLoS One.* 2017 Sep 26;12(9): e0184636. doi: 10.1371/journal.pone.0184636. eCollection 2017.
 5. Atuhairwe C1, Amongin D1, Agaba E2, Mugarura S1, Taremwa. The effect of knowledge on uptake of breast cancer prevention modalities among women in Kyadondo County, Uganda. *BMC Public Health.* 2018 Feb 23;18(1):279. doi: 10.1186/s12889-018-5183-5.
 6. Liu LY, Wang YJ, Wang F, Yu LX, Xiang YJ, Zhou F, Li L, Zhang Q, Fu QY, Ma ZB. Factors associated with insufficient awareness of breast cancer among women in Northern and Eastern China: a case-control study. 2018 Feb 20;8(2):e018523. doi: 10.1136/bmjopen-2017-018523.
 7. Madhukumar S, Thambiran UR, Basavaraju B, Bedadala MR. A study on awareness about breast carcinoma and practice of breast self-examination among basic sciences' college students, Bengaluru. *J Family Med Prim Care.* 2017 Jul-Sep;6(3):487-490. doi: 10.4103/2249-4863.222026.
 8. Dahiya N, Basu S, Singh MC, Garg S, Kumar R, Kohli C. Knowledge and Practices Related to Screening for Breast Cancer among Women in Delhi, India. *Asian Pac J Cancer Prev.* 2018 Jan 27; 19(1):155-159.