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ISSN (Online) : 2455 - 3662
SJIF Impact Factor :3.967

EPRA International Journal of
**Multidisciplinary
Research**

Monthly Peer Reviewed & Indexed
International Online Journal

Volume: 3 Issue: 1 January 2017



Published By :
EPRA Journals

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AWARENESS AND ATTITUDE TOWARDS BREAST CANCER AND BREAST SELF EXAMINATION AMONG RURAL WOMEN IN THANJAVUR DISTRICT, TAMIL NADU

Dr.C.Sunitha¹

¹Associate Professor of Economics &
Head,
Principal Investigator-UGC-MRP,
Rajah Serfoji College,
Thanjavur, Tamil Nadu, India

ABSTRACT

Background: Breast cancer is the most common female cancer in the world with an estimated 1.67 million new cancer cases diagnosed in 2012. Among Indian women, it has now become the most common female cancer in urban India. However, early detection of this cancer leads to a timely treatment and better prognosis, which significantly improves the survival rate in patients.

Objectives: The objective of this study is to assess the awareness and attitude towards the knowledge of breast health and breast self examination in women in order to turn down the fear of cancer world. And it also aims to develop the practice of breast self examination clearing the doubts if any raised by issuing information booklets to them.

Methodology: This descriptive-analytical study was conducted on 600 rural women at reproductive age in rural areas of Thanjavur District who were selected purposive random sampling method.

Results: The awareness level of breast cancer has statistically significant positive correlation with susceptibility perception ($p=0$), barrier perception ($p=0.014$) and confidence perception ($p=0.03$). Perceived barriers and the perceived motivation are significantly correlated with all other health belief subsets.

Conclusions: Poor knowledge of women regarding the breast cancer and breast self awareness indicates a vital need for formal educational programs to sensitize women regarding the importance of breast cancer screening techniques. These educational programs should consider factors affecting breast cancer screening behaviors especially the self breast exams, clinical breast exams and mammogram.

KEYWORDS: Breast Cancer; Cancer Screening; Mammogram; Breast Self-Examination

JEL Classification: I 12, B 54,

Breast cancer is the malignant tumor that starts in the cells of the breast. Though it occurs both in men and women, male breast cancer is rare. Breast cancer is the most common female cancer in the world with an estimated 1.67 million new cancer cases diagnosed in 2012. Among Indian women, it has now become the most common female cancer in urban India. In 2012, 1,44,937 new cases and 70,218 deaths were reported for breast cancer in India and 1 out of every 2 women diagnosed with breast cancer dies of this disease, mainly because the tumor is diagnosed too late (GLOBOCAN,2012). Breast cancer in India varies from as low as 5 per 100,000 female population per year in rural areas to 30 per 100,000 female population per year in urban areas (ICMR, 2012). The incidence of breast cancer increases with age and this is true in India like rest of the world.

Every seven minutes a new case of breast cancer is detected in India. One in 21 women are affected (Brij Khandelwal, 2009). The incidence of breast cancer increases with age and doubles every ten years until the menopause when the rate of increase slows. Approximately a quarter of breast cancers affect women under the age of 50 years, a half occur between the ages of 50 and 69 years and the remaining quarter develop in women who are 70 years or older. Women who start menstruating early in life or who have a late menopause have an increased risk of breast cancer. Women who have natural menopause after the age of 55 are twice as likely to develop breast cancer as women who experience the menopause before the age of 45 years. (Beral V, et al., 2003)

Population-wide mammographic screening program of asymptomatic women is neither feasible in India nor it may be as useful due to lower breast cancer incidence and population structure in India (Mittra I,2011). Opportunistic screening may be considered for some high risk and concerned women in India. Against this background, Breast Self Examination (BSE) by women will be of great help in identifying breast tumours earlier.

Generally, breast cancers are not painful and it is the woman who identify first when there are changes in her breasts. If breast cancer is found at an early stage this improve the chances of recovery by giving immediate and prompt treatment. So it is important that all the women who have started their menarche should have knowledge and perform breast self examination monthly. (Barbara Poole,et al., 2009).

Breast Self Examination:

Breast self-examination (BSE) is a screening method used in an attempt to detect early breast cancer. The method involves the woman herself looking at and feeling each breast for possible lumps, distortions or swelling. Breast lump can be a benign or

malignant. Breast cancer develops from the cells that line the breasts, lobules and the draining ducts. Breast cancer can be non – invasive or invasive. Non-invasive cancer cells are confined to the lobule and the ducts whereas the invasive cancer cells move outside the ducts and lobules into the surrounding breast tissue. Breast cancer can occur at any age, though it is most common in women older than 50 years of age. Breast self examination should be done in lying and standing positions while looking at the breast in the mirror. The best time to examine the breast is usually one week after the menstrual period begins and for the menopause women it is done on a day of the month that is easy to remember.

OBJECTIVE FOR THE STUDY:

There is a felt need and concern towards the early identification of Breast Cancer and to create awareness in the mind of women. The objective of this study is to begin to know the awareness and attitude towards the knowledge of breast health and breast self examination in women in order to turn down the fear of cancer world. And it also aims to develop the practice of breast self examination clearing the doubts if any raised by issuing information booklets to them. Hence this study is taken up to assess the knowledge of breast self examination among rural women at reproductive age in rural areas of Thanjavur District.

REVIEW OF LITERATURE

Medical literature suggests that a significant percentage of breast cancer is discovered by chance, and women doing monthly BSE often recognize a mass in their breasts earlier than women who do not perform monthly BSE (Regan & Durvasula, 2009; Wood, 2009). Moreover, screening tests such as clinical breast exams and mammography have been shown to reduce the risk of dying from breast cancer by as much as 25% in women between ages 50 and 69 (CDC, 2010). A study (Pillay AL,2003) on awareness of breast cancer among urban and rural women showed that lower awareness level were found in older and rural women and suggested that particular focus to be given on rural women, considering the inadequate health care resources in their communities and the socio- economic hardships facing them. Similarly, a greater number of women used to perform regular breast self examination in the intervention group than in the control group (Lee CY,,2003). Another interventional study conducted to assess the impact of a health education intervention program about breast self examination among women in a semi- urban area in Madhya Pradesh, India showed that 59% women had good knowledge and among them 90.7% practiced breast self examination after the intervention. (Gupta SK,2009). Generally, the earlier studies insisted that Indian women had lack of knowledge regarding proper technique and suggested

that there is a strong need to educate the women to practice breast self examination of the breast for early detection of breast cancer (Malik, Usha, 1982).

Champion initiated an innovative research instrument that directly linked the HBM constructs to breast cancer screening behaviors. She concluded from this study that her scales for susceptibility, seriousness, and barriers were internally consistent and reliable (Champion, 1984). Expanding her previous work studying HBM and BSE, she modified scales used in measuring perceived susceptibility, benefits, and barriers to breast cancer screening behaviors—and applied them to mammography, as well (Champion, 1999). Family history and breast cancer worry were found to be significant predictors of personal risk judgments for the women surveyed and the women who overestimate their breast cancer risk may suffer unnecessary stress, and anxiety, and may overuse health services (Katapodi et al., 2010). Norman & Brain (2005) applied an extended Health Belief Model (HBM) to the prediction of breast self-examination among women with a family history of breast cancer. Lerman et al. (1991) assessed the frequency of concerns about developing breast cancer and the impact of breast cancer worries on mood and daily functioning. Wendt (2005) also applied the Health Belief Model to her examination of how female undergraduates perceive their future risk of breast cancer and coronary heart disease.

With the help of HBM a significant positive relationship between the variables of breast self examination knowledge and breast self examination practice among rural women was established (Gray ME.,1990). A cross-sectional study with the help of HBM in a rural area of western Turkey also confirms level of breast cancer knowledge was the only variable significantly associated with the breast self examination and mammography practice (Dundar PE ,et al., 2006). Another cross-sectional study conducted to assess the practice and barriers towards breast self examination among young Malaysian women, reveals that age, exercise and family history of cancer significantly influenced the practice of breast self examination (Al Naggat,et al.,2011). A quasi-experimental study analyzing the follow-ups consistently confirms that the variables influencing breast self examination practice were found to be breast self examination practice at the pre-training period, perceived confidence in and benefits from breast self examination six months after breast self examination instruction, and health motivation one year after training (Gursoy AA,2007). A descriptive study with the help of HBM conducted among Turkish women academicians revealed that single academicians' perceived susceptibility and seriousness higher than their married counterparts and the family history of breast cancer of participants affected their

health beliefs subscale much. (Ceber E,2011). Conversely at times, a high disparity was observed between high levels of knowledge of breast self examination compared to a low level of practice even among the college students (Gwarzo UM,2009).

METHODOLOGY OF THE STUDY

The available medical studies suggest that Breast Cancer awareness is comparatively high among the urban women. But the same among the rural women is yet to be documented in Indian research literature. To make a humble beginning in that path, this research attempt is made. The Thanjavur District, one of the 32 Districts in the State of Tamil Nadu, mainly dominated by rural places depending on Agriculture, is taken as the area for the present study. It lies on the east coast of Tamil Nadu, India. In an extensive study conducted between August 2016 and November 2016, among the women visiting village Primary Health Centres in Thanjavur District and those women who accompany them, the awareness and attitude towards the Breast Cancer and Breast Self Examination was surveyed. The women at reproductive age living in rural area of Thanjavur District are taken as samples. Only those women who are available at the time of data collection whether married or not are considered for survey. The women who are not willing to participate in the study and the women who are below 15 years are excluded from the study. Data collection was done during the same period using structured questionnaire containing three sections like demographic variables, various knowledge aspects and the health beliefs.

AWARENESS ABOUT THE SBE AND BREAST HEALTH

Of all the 600 respondents, only 66 women are reasonably aware of the Self Breast Examination (SBE). The influence of various socio-demographic factors on the awareness is analysed in the Table No.1. Of all the respondents a maximum of 64% are in the age group of 21-40 years. Awareness about the Self Breast Examination seems to be comparatively high in the women of the age group of 41-50 wherein one in four women are aware of the SBE. It is followed by the much older women among whom 12% found aware of SBE. The younger respondents are not aware of the SBE at all. The chi square test also confirms this relationship between the age and awareness.

Age at menarche also found a related variable to the SBE. Nearly half of the respondents attained puberty in the age of 12-16 years. But they are the least aware people regarding the SBE. Though the respondents with earlier menarche are less in number, are found highly aware, which is a welcome phenomenon, since it is the riskier class to Breast Cancer. Regarding the age at marriage, every 4 out of 5 women got married in their age of 19-24 years and

they only are not relatively aware of the BSE. Higher the age of marriage, higher was the awareness about the SBE also, which is further substantiated by the chi square test confirming the significant relationship between the age at marriage and the SBE awareness.

Of all the respondents only 5% are not married and none of them had any knowledge of the SBE awareness. Majority of the respondents interviewed belong to the Hindu religion. There is no relationship between the religion and SBE awareness.

As far as the community is concerned respondents from Scheduled Caste account for 30%, the awareness about the BSE is community comparatively less among the SC/ST women comparing women not belonging to SC women. There is a significant statistical relationship between the variables, caste ad awareness about SBE, as the chi-square p value is 0.02 only.

Considering the variable, type of family one belongs to, 53% of the respondents still stick on to the joint family set up. But the awareness about the SBE is higher only among those who are in the nuclear family. Women in the extended family have only lesser knowledge about the SBE. This relationship is statistically significant too.

Thirty percent of the respondents completed their higher secondary education or above, among whom the awareness also found comparatively better. If the education level decreases the awareness about the Breast health also comes down. This relationship also is very well supported by the p value statistic.

The monthly disclosed family income of 70% of the respondents is less than Rs.10000 only and they have very less awareness about the breast health. When the family income goes up the awareness about the SBE also rises comparatively, the relationship of which is established by chi square test.

Table No.1 Awareness about Self Breast Examination and Socio Economic Variables

| Sl.No. | Factors | Aware | Unaware | Total | Awareness% | Unaware % | Total % | p-Value: | Inference |
|--------|----------------------------|-------|---------|-------|------------|-----------|---------|----------|-----------|
| 1 | Age (Years) | | | | | | | | |
| | Below 20 | 0 | 20 | 22 | 0% | 91% | 4% | | |
| | 21-30 | 7 | 182 | 189 | 4% | 96% | 32% | | |
| | 31-40 | 21 | 174 | 191 | 11% | 91% | 32% | | |
| | 41-50 | 28 | 86 | 114 | 25% | 75% | 19% | | |
| | Above 50 | 10 | 72 | 84 | 12% | 86% | 14% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 2 | Age at menarche (in years) | | | | | | | | |
| | 1. Below 12 years | 6 | 29 | 35 | 17% | 83% | 6% | | |
| | 2. 12-16 | 22 | 284 | 306 | 7% | 93% | 51% | | |
| | 3. Above 16 years | 38 | 221 | 259 | 15% | 85% | 43% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.009 | Related |
| 3 | Age at Marriage (in years) | | | | | | | | |
| | 1. Below 18 | 4 | 39 | 43 | 9% | 91% | 8% | | |
| | 2. 19-24 | 46 | 399 | 445 | 10% | 90% | 78% | | |
| | 3. 25-30 | 13 | 63 | 76 | 17% | 83% | 13% | | |
| | 4. Above 30 | 3 | 4 | 7 | 43% | 57% | 1% | | |
| | Total | 66 | 505 | 571 | 12% | 88% | 100% | 0.019 | Related |
| 4 | Marital status | | | | | | | | |
| | single/ unmarried | 0 | 29 | 29 | 7% | 93% | 5% | | |
| | Married | 62 | 451 | 511 | 12% | 88% | 85% | | |
| | Widowed/Divorced | 4 | 56 | 60 | 7% | 93% | 10% | | |

| | | | | | | | | | |
|----|---|----|-----|-----|-----|-----|------|-------|-------------|
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.380 | Independent |
| 5 | Religion | | | | | | | | |
| | 1.Hindus | 52 | 443 | 495 | 11% | 89% | 83% | | |
| | 2.Muslims | 7 | 52 | 59 | 12% | 88% | 10% | | |
| | 3. Christians | 7 | 39 | 46 | 15% | 85% | 8% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.605 | Independent |
| 6 | Caste | | | | | | | | |
| | 1. SC/ST | 12 | 169 | 181 | 7% | 93% | 30% | | |
| | 2. Others | 54 | 365 | 419 | 13% | 87% | 70% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.025 | Related |
| 7 | Type of Family | | | | | | | | |
| | 1. Nuclear | 49 | 207 | 256 | 19% | 81% | 43% | | |
| | 2.Extended | 17 | 327 | 344 | 5% | 95% | 57% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 8 | Educational Level | | | | | | | | |
| | 1.No formal schooling | 1 | 119 | 120 | 1% | 99% | 20% | | |
| | 2.Elementary Education | 14 | 134 | 148 | 9% | 91% | 25% | | |
| | 3.Secondary | 21 | 133 | 154 | 14% | 86% | 26% | | |
| | 4. Higher Secondary | 28 | 137 | 165 | 17% | 83% | 28% | | |
| | 5. Degree/ Diploma/any other higher education | 2 | 11 | 13 | 15% | 85% | 2% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 9 | Income of the family (Rupees per month) | | | | | | | | |
| | 1.Upto 5000 | 16 | 208 | 224 | 7% | 93% | 37% | | |
| | 2.5000-10,000 | 14 | 175 | 189 | 7% | 93% | 32% | | |
| | 3. 10,000-15000 | 25 | 108 | 133 | 19% | 81% | 22% | | |
| | 4. Above 15000 | 11 | 43 | 54 | 20% | 80% | 9% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 10 | Knowledge with Breast Cancer Victims | | | | | | | | |
| | No | 29 | 479 | 508 | 6% | 94% | 85% | | |
| | Near Relatives | 12 | 3 | 15 | 80% | 20% | 3% | | |
| | Far relatives/ Friends | 25 | 52 | 77 | 32% | 68% | 13% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 11 | Main Occupation | | | | | | | | |
| | 1. House wife | 29 | 329 | 358 | 8% | 92% | 60% | | |
| | 2.Daily wager | 16 | 108 | 124 | 13% | 87% | 21% | | |
| | 3.Govt. job | 4 | 9 | 13 | 31% | 69% | 2% | | |
| | 4. Private job | 12 | 47 | 59 | 20% | 80% | 10% | | |

| | | | | | | | | | |
|----|---|----|-----|-----|-----|-----|------|-------|---------|
| | 5. Self Employed | 3 | 8 | 11 | 27% | 73% | 2% | | |
| | 6. Others(students, women with earned income...) | 2 | 33 | 35 | 6% | 94% | 6% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.000 | Related |
| 12 | Body Mass Index (BMI) | | | | | | | | |
| | Below normal-lower than 18.5 kg/m ² | 9 | 145 | 154 | 6% | 94% | 26% | | |
| | Normal- from 18.5kg/m ² up to 25 kg/m ² | 34 | 293 | 327 | 10% | 90% | 55% | | |
| | Overweight- 25 kg/m ² &Above | 23 | 96 | 119 | 19% | 81% | 20% | | |
| | Total | 66 | 534 | 600 | 11% | 89% | 100% | 0.002 | Related |

Analysing the occupational structure of the rural women respondents, nearly 60% are the house makers, followed by 21% working as daily wage earners in the agriculture or nearby agro based industries. Other 10 % are privately employed in semi-organized sector and private schools. Comparing the house makers, the earning women seem to be more aware of the breast health and BSE.

Comparing the physique, one-fourth of the women respondents are found under weight and they have lesser awareness comparing the overweight ones. The relationship of which is also significant enough supported by chi-square statistic.

Hereditary cancer accounts for 5% of all breast cancers and a greater proportion of ovarian cancers. Mutations in two breast cancer susceptibility genes BRCA1 and BRCA2 account for over 50% of the Hereditary Breast Ovarian Cancer (HBOC) families. Mutation in TP53 gene accounts for a small fraction of families, as part of Li-Fraumeni syndrome (ICMR, 2016). If there is an exposure to breast cancer affected ones, the awareness is obviously will be at its high. Of the respondents interviewed only 3% women's close relatives and 13% respondents' far relatives and friends had breast cancer. The awareness of BSE is very high among these respondents comparing others among whom only 8% had any knowledge about SBE.

AWARENESS ABOUT THE BREAST CANCER

Awareness about the breast cancer was assessed by the researcher under the four heads. The respondents were asked to give their level of awareness in a five point scale. Considering the screening techniques, only 3 % had complete knowledge about the screening technique and 71%

had the least knowledge about it. The statement regarding awareness about the breast scanning was also not replied positively as the weighted mean score is only 39%.

The awareness regarding the nature of breast cancer was analysed with the help of six statements. With a weighted average mean score of 73% , the respondent women greatly fall in line with the statement, 'breast cancer is curable in early stages' and majority are aware of the fact that the Breast Cancer results in high mortality if goes untreated with a weighted average mean score of 69%. Breast cancer is not a contagious disease and this fact is also not that much known to 43% of the women respondents. Similarly the reasonable awareness about the fact that the cancer occurs in one breast only and its affecting mainly the 50 plus aged women are not known to nearly half of the respondents. The overall awareness about the nature of the breast cancer that it is painless in its early stages is the least aware aspect among the rural women and they think that cancer is always intolerably painful, leading to death.

The awareness about the symptoms of the Breast cancer was assessed with the help of five statements. The first fact that the lump in the breast or armpit is one of the symptoms of cancer is known by the rural women comparatively. On the other hand, thickening or swelling of part of the breast and changes in nipple shape/pulling in of the nipple or pain in the nipple area are the least known symptoms to them. The symptoms like nipple discharge and Sudden and abnormal changes in size and shape of breast are the symptoms are reasonably known to rural women as the weighted mean score is just 56% in these aspects.

Table No, 2: Awareness about the Breast Cancer

| Awareness level | 1 | 2 | 3 | 4 | 5 | WAS | OWAS |
|---|-----|-----|-----|-----|-----|-----|------|
| Screening | | | | | | | |
| Awareness about mammogram | 71% | 15% | 9% | 2% | 3% | 30% | |
| Awareness of performing techniques of BSE | 22% | 35% | 22% | 18% | 4% | 49% | |
| Awareness about clinical examination of breast | 19% | 21% | 25% | 28% | 7% | 57% | |
| Awareness about the Breast Scan | 43% | 32% | 14% | 9% | 3% | 39% | 44% |
| Breast Cancer Nature | | | | | | | |
| Breast Cancer is curable in early stages | 9% | 8% | 14% | 48% | 22% | 73% | |
| Breast Cancer results in high mortality if goes untreated | 16% | 10% | 16% | 28% | 31% | 69% | |
| Breast Cancer is Painless in early stages | 68% | 5% | 10% | 15% | 3% | 36% | |
| Breast Cancer more common in women over 50 | 52% | 22% | 14% | 5% | 8% | 39% | |
| Breast Cancer Occurs in one breast only | 45% | 21% | 9% | 5% | 21% | 47% | |
| Breast Cancer is not contagious | 43% | 32% | 10% | 8% | 8% | 41% | 51% |
| Warning Sign | | | | | | | |
| Breast/ Underarm lump | 04% | 18% | 17% | 30% | 32% | 73% | |
| Thickening or swelling of part of the breast | 73% | 18% | 5% | 3% | 1% | 28% | |
| Sudden and abnormal changes in size and shape of breast | 15% | 30% | 29% | 14% | 13% | 56% | |
| Discharges from nipple | 22% | 17% | 31% | 20% | 10% | 56% | |
| Changes in nipple shape/Pulling in of the nipple or pain in the nipple area | 73% | 18% | 5% | 1% | 3% | 29% | 40% |
| Risk Factor | | | | | | | |
| Personal history of Breast Cancer | 3% | 2% | 6% | 8% | 81% | 92% | |
| Family history of breast cancer | 13% | 9% | 10% | 21% | 48% | 76% | |
| Obesity | 85% | 8% | 4% | 3% | 1% | 25% | |
| Less physical exercise or activities | 42% | 13% | 23% | 17% | 5% | 46% | |
| Smoking | 36% | 10% | 26% | 9% | 20% | 53% | |
| Alcohol Consumption | 36% | 11% | 30% | 10% | 14% | 51% | |
| Risk Increases with age | 21% | 26% | 31% | 6% | 16% | 54% | |
| Early menarche | 84% | 6% | 3% | 2% | 5% | 28% | |
| Late menopause | 79% | 5% | 11% | 3% | 2% | 29% | |
| Long oral contraceptive pills | 60% | 18% | 17% | 3% | 3% | 34% | |
| Avoiding or Less Breast feeding practice | 85% | 8% | 3% | 2% | 2% | 26% | 47% |
| Overall Awareness Weighted Average Score | | | | | | | 46% |

With the exception of 5-10% breast cancers where the main risk factor is genetic predisposition, in the remaining 90% of sporadic breast cancers, the identified risk factors are either reproductive, lifestyle or environmental factors, primarily through their influence on the hormonal milieu. No breast cancer risk factor, unique to the Indian population has been widely reported (Mittra I,2014).

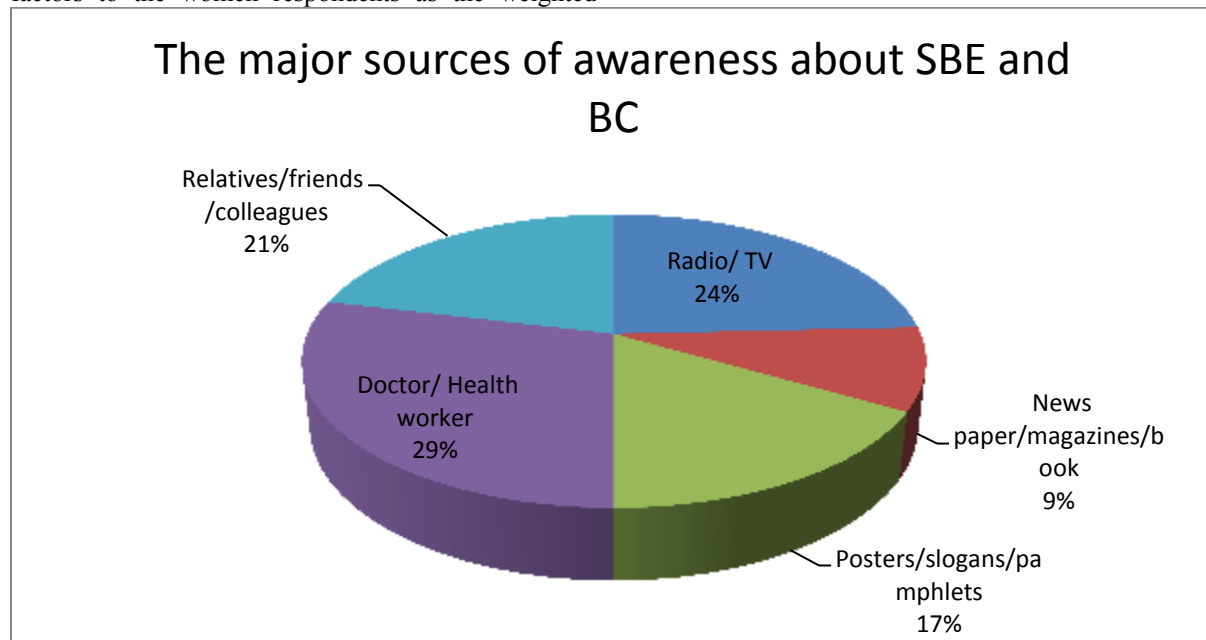
The awareness about 11 select risk factors was assessed in context with the breast cancer. The risk factors like personal history and family history (i.e., personal previous history of getting affected with any other cancer and the close relatives like mother, mother's mother, sister, getting affected of breast cancer) were the two factors which are well known to the respondents. Obesity was not at all considered as a major risk factor by most of the respondents. Avoiding breast feeding, early menarche, late menopause and taking oral contraceptives for a longer period of time are also not that much known risk factors to the women respondents as the weighted

score is just averaging around 26% to 34%. On the contrary, the rest of the risk factors like less physical activities, smoking, drinking, and aging are known to half of the women respondents.

Thus, the awareness about the aspects of most common female cancer in the world is not adequately known to the rural women as the overall weighted mean score is just 46%.

Source of Awareness of SBE and BC:-

Among those who are aware the breast self examination and breast cancer, the main source of the awareness was Doctor or Health Worker's advice (29%), followed by Radio or Television like media (24%). The closeness with relatives friends and colleagues are the third most important source of awareness about the SBE. Posters, slogans, pamphlets (17%) and other print media like newspapers/ magazines/books (9%) are the other form of resources for the SBE awareness.



HEALTH BELIEF MODEL IN CONTEXT OF SBE

The Health Belief Model (HBM) was designed by Hochbaum, Leventhal, Kegeles, and Rosenstock in the 1950s. Perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, and cues to action were the core components of the HBM. The self-efficacy component of the HBM was later added by Bandura in 1977. Based on the earlier researches in this field, the agreement with variable HBM constructs including perceived severity, perceived susceptibility, perceived barriers,

confidence, perceived benefits and motivational factors were enquired in the present study.

On the perceived severity aspect how the respondent evaluates the severity of the breast cancer is perceived is measured with the help of 11 statements. Perceived severity is one's belief about the seriousness of a medical condition and the sequence of events after diagnosis and personal feelings related to the consequences of a specific medical condition. 'If one gets breast cancer, it will be more serious than other diseases', 'If one gets BC this will threaten her marital life' and 'If I get breast cancer, it will be more serious than other diseases' are the three statements

towards which the respondents are strongly agreed with. Though the severity of the disease is well felt with, the extreme thinking that it is the God's curse and the affected cannot survive for more than five years are also agreed or strongly agreed by at least every 2 out of 5 respondents. The very thinking of the dreadful disease scares the respondents (71%) and results in rising one's heartbeats (71%) and making afraid of (70%) the same. 'The entire life will be changed if one gets BC', 'My feelings about myself would change if I got breast cancer' and 'I think the problem about BC will persist long' are also the statements that were very well agreed notably reflecting the respondents' perception about the disease is severe enough.

Perceived susceptibility is subjective perception of the risk of an illness (Janz, Champion, & Strecher, 2002). The perceived susceptibility to the breast cancer is a pessimistic aspect towards which how the respondents agree with was measured with the help of 4 statements. Eighty seven percent of the respondents strongly disagree or disagree with the statement 'I think I am susceptible to breast cancer more than anyone' and 85% do so to the statement 'My chances of getting breast cancer is very high'. 'My physical health makes it more likely that I will get breast cancer' and 'I am highly susceptible to breast cancer next 10 years' are the two statements towards which also the disagreement is above 72%. The overall weighted mean score of 35% denotes that the respondents are not ready to expect the unexpected.

The perceived confidence in self diagnosing for the breast cancer is assessed with the help of 8 statements. Since the respondents are not fully aware of BSE, only 13% to 26% of the respondent women alone agreed or strongly agreed with all these statements namely, 'I am confident in performing BSE correctly', 'I am sure of the steps of BSE', 'I can use the correct parts of my fingers when performing BSE', 'I am confident I can discover breast tumors by performing BSE', 'I can discover breast tumor even at size of small peas', 'I am able to discover breast tumors alone through performing BSE', 'I am able to discover between normal and abnormal nipple changes and discharges through BSE' and 'When I look at mirror I can identify abnormal changes in my breast'. But only 2 % of the respondents strongly opined that they can discover breast tumor even at size of small peas and are able to differentiate and discover breast tumors alone through performing BSE.

Only if the benefits are realized one will get into that venture. Perceived benefits in the HBM refer to one's belief in the various diseases reducing actions' effectiveness. Whether the perceived benefits are realized by the women respondents were measured by posing 7 statements. Though the respondents are

not pretty aware and are not practicing BSE, more than half of the respondents strongly agree to the statements 'Doing breast self-exams prevents future problems for me' and 'If I do monthly breast exams I may find a lump before it is discovered by regular health exams'. On the other hand 23% of the respondents disagree or strongly disagree with the statement that performing BSE may decrease the anxiety about BC. All the rest of the four statements namely 'Performing BSE monthly will decrease complications of BC if I got it', 'Performing BSE decrease the chance of making surgery if I got it', 'If I perform BSE I may feel self-satisfied' and 'Breast self-exams can help me find lumps in my breast' are also agreed by the majority of the respondents as the weighted mean score is more than 70%.

Perceived barriers refer to the potential negative aspects of or obstructions to taking a recommended health action (Janz, Champion, & Strecher, 2002). This is the belief about physical and psychological costs of taking health action. With the help of 9 statements the perceived barriers in carrying out the BSE was measured. "The practice of breast self-exams interferes with my activities' and 'No private place at home to perform BSE' are the two statements to which a high 67% of the respondents agree or strongly agree with. The concentration of extended families, small houses and countless household works made them to perceive these barriers. Sixty percent of the respondents agree so with the pessimistic statement that getting breast cancer is a destiny and BSE will not change it. On the other hand, nearly half of the respondents do not consider the pain in doing SBE is a perceived barrier. Nineteen percent of the respondents strongly brush aside the barriers like BSE is an embarrassing thing, time consuming task and starting a new habit is a difficult one. 'My family/ friends would make fun of me if they know that I did breast self-exams' is the statement which is not strongly agreed with by 14% of the respondents. As a whole, the perceived barriers were measured with a weighted average score of 63%.

Cues to action or motivation, refers to internal incentive for living a healthy lifestyle so as to avoid the BC. To assess the quantum of motivation the agreement with eight questions were analysed. It reveals that half of the respondents acknowledging that keeping good health is an important thing and detecting health problems early is preferred, as they strongly agree to these two statements. It is followed by the statements 'I feel the importance of activities that improve my health (73%)' I always follow medical orders because I believe they will benefit my state of health' (71%), 'I always seek new information that improve my health' (68%), 'I will practice exercise/ 'doing field work at least 3 times weekly' (67%) and I will perform periodic medical checkup'

(60%) , based on the agreement weighted mean scores. Only the statement that ‘my diet is complete and balanced’, the disagreement is at its high, revealing the fact that though the respondents are interested in maintaining good health the socio-

economic conditions do not allow them to take even the required nutritious food. Yet, the overall weighted mean score of 71% infers that the internal motivation exists among the rural women to get protected from the dreadful disease.

Table No.3: Health Beliefs regarding Breast Cancer and Breast self Examination

| Sl. No. | Breast Health Beliefs | Strongly Disagree (1) | Disagree (2) | Neither agree nor disagree (3) | Agree (4) | Strongly Agree (5) | WAMS | WAMS (%) |
|----------------------------------|---|-----------------------|--------------|--------------------------------|-----------|--------------------|------|----------|
| PERCEIVED SEVERITY: | | | | | | | | |
| 1 | Breast Cancer is a hopeless disease and God's Curse | 15% | 10% | 32% | 23% | 21% | 3.26 | 65% |
| 2 | I think one cannot not live more than 5 ys. with BC | 18% | 15% | 26% | 32% | 10% | 3.02 | 60% |
| 3 | When I think about BC my heart beat faster and feel nauseas | 8% | 15% | 21% | 30% | 27% | 3.53 | 71% |
| 4 | I am afraid even to think about BC | 8% | 14% | 22% | 31% | 25% | 3.51 | 70% |
| 5 | If one gets BC this will threaten her marital life | 2% | 2% | 15% | 36% | 46% | 4.23 | 85% |
| 6 | The entire life will be changed if one gets BC | 3% | 16% | 24% | 33% | 24% | 3.58 | 72% |
| 7 | I think the problem about BC will persist long | 8% | 16% | 17% | 21% | 38% | 3.66 | 73% |
| 8 | The very thought of BC scares me | 7% | 13% | 26% | 28% | 27% | 3.56 | 71% |
| 9 | My financial security would be endangered if I got breast cancer. | 2% | 3% | 26% | 26% | 43% | 4.04 | 81% |
| 10 | If I get breast cancer, it will be more serious than other diseases. | 3% | 10% | 21% | 18% | 48% | 3.98 | 80% |
| 11 | My feelings about myself would change if I got breast cancer | 15% | 9% | 16% | 21% | 40% | 3.61 | 72% |
| Overall Weighted Average Score | | | | | | | 3.63 | 73% |
| PERCEIVED SUSCEPTIBILITY: | | | | | | | | |
| 1 | My chances of getting breast cancer are high. | 64% | 21% | 9% | 2% | 4% | 1.62 | 32% |
| 2 | I think I am susceptible to breast cancer more than anyone | 62% | 25% | 8% | 3% | 2% | 1.59 | 32% |
| 3 | My physical health makes it more likely that I will get breast cancer. | 56% | 21% | 10% | 6% | 7% | 1.87 | 37% |
| 4 | I am highly susceptible to breast cancer next 10 years | 52% | 20% | 10% | 10% | 8% | 2.01 | 40% |
| Overall Weighted Average Score | | | | | | | 1.77 | 35% |
| CONFIDENCE | | | | | | | | |
| 1 | I am confident in performing BSE correctly | 22% | 35% | 22% | 18% | 4% | 2.47 | 49% |
| 2 | I am sure of the steps of BSE | 22% | 33% | 24% | 10% | 12% | 2.58 | 52% |
| 3 | I can use the correct parts of my fingers when performing BSE | 33% | 31% | 18% | 9% | 10% | 2.32 | 46% |
| 4 | I am confident I can discover breast tumors by performing BSE | 34% | 32% | 22% | 10% | 3% | 2.17 | 43% |
| 5 | I can discover breast tumor even at size of small peas | 24% | 34% | 24% | 17% | 2% | 2.41 | 48% |
| 6 | I am able to differentiate and discover breast tumors alone through performing BSE | 24% | 33% | 23% | 18% | 2% | 2.39 | 48% |
| 7 | I am able to discover between normal and abnormal nipple changes and discharges through BSE | 33% | 33% | 22% | 10% | 3% | 2.16 | 43% |
| 8 | When I look at mirror I can identify abnormal changes in my breast | 27% | 23% | 25% | 17% | 9% | 2.59 | 52% |

| | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|------|------|-----|
| | Overall Weighted Average Score | | | | | | | 2.38 | 48% |
| | PERCEIVED BENEFITS | | | | | | | | |
| 1 | Doing breast self-exams prevents future problems for me. | 9% | 10% | 15% | 27% | 40% | 3.79 | 76% | |
| 2 | Breast self-exams can help me find lumps in my breast. | 2% | 4% | 17% | 22% | 55% | 4.24 | 85% | |
| 3 | If I do monthly breast exams I may find a lump before it is discovered by regular health exams. | 2% | 3% | 9% | 34% | 53% | 4.35 | 87% | |
| 4 | Performing BSE monthly will decrease complications of BC if I got it | 5% | 6% | 14% | 29% | 47% | 4.07 | 81% | |
| 5 | Performing BSE decrease the chance of making surgery if I got it | 5% | 9% | 16% | 33% | 38% | 3.9 | 78% | |
| 6 | If I perform BSE I may feel self-satisfied | 4% | 12% | 14% | 35% | 36% | 3.87 | 77% | |
| 7 | Performing BSE may decrease the anxiety about BC | 10% | 13% | 19% | 40% | 19% | 3.44 | 69% | |
| | Overall Weighted Average Score | | | | | | | 3.95 | 79% |
| | PERCEIVED BARRIERS | | | | | | | | |
| 1 | Breast self-exams can be painful | 37% | 15% | 26% | 17% | 5% | 2.37 | 47% | |
| 2 | It is embarrassing for me to do monthly breast exams. | 17% | 14% | 39% | 19% | 11% | 2.94 | 59% | |
| 3 | Performing BSE is a trivial thing | 23% | 16% | 20% | 17% | 25% | 3.05 | 61% | |
| 4 | The practice of breast self-exams interferes with my activities | 8% | 16% | 10% | 35% | 32% | 3.68 | 74% | |
| 5 | No private place at home to perform BSE | 9% | 10% | 14% | 33% | 34% | 3.74 | 75% | |
| 6 | My family/ friends would make fun of me if they know that I did breast self-exams. | 19% | 24% | 21% | 14% | 22% | 2.96 | 59% | |
| 7 | Doing breast self-exams would require starting a new habit, which is difficult | 10% | 17% | 35% | 19% | 20% | 3.24 | 65% | |
| 8 | Performing BSE takes long time | 14% | 13% | 38% | 19% | 16% | 3.1 | 62% | |
| 9 | I think getting breast cancer is a destiny and BSE will not change it | 11% | 9% | 20% | 50% | 10% | 3.4 | 68% | |
| | Overall Weighted Average Score | | | | | | | 3.16 | 63% |
| | MOTIVATIONAL FACTORS: | | | | | | | | |
| 1 | Keeping my good health is important to me | 3% | 10% | 19% | 17% | 52% | 4.05 | 81% | |
| 2 | I wish to discover health problems that occur early | 1% | 1% | 10% | 40% | 48% | 4.33 | 87% | |
| 3 | I always seek new information that improve my health | 5% | 9% | 42% | 28% | 16% | 3.42 | 68% | |
| 4 | I feel the importance of activities that improve my health | 5% | 10% | 25% | 32% | 27% | 3.66 | 73% | |
| 5 | My diet contains complete and balanced meals | 18% | 14% | 39% | 20% | 9% | 2.88 | 58% | |
| 6 | I will practice exercise/ /doing field work at least 3 times weekly | 5% | 16% | 42% | 14% | 23% | 3.33 | 67% | |
| 7 | I will perform periodic medical checkup | 6% | 14% | 60% | 16% | 5% | 2.98 | 60% | |
| 8 | I always follow medical orders because I believe they will benefit my state of health. | 2% | 4% | 47% | 30% | 17% | 3.56 | 71% | |
| | Overall Weighted Average Score | | | | | | | 3.53 | 71% |

Relationship between the awareness and Attitudes:-

The relationship between the Breast Cancer awareness and the various subsets of health beliefs were analysed statistically. It brings out the fact that whenever the awareness is high the thinking of

susceptibility also going high, even at 1% level of significance. Further the awareness level is also found statistically significant positive correlation with barrier perception ($p=0.014$) and confidence perception ($p=0.03$). The severity perception has statistically significant positive correlation with four other subsets of the health beliefs namely, perceived

confidence, perceived benefits, perceived barrier and cues to action, as the p values are less than the level of significance. It is not related to only one subset – susceptibility as the respondents do not want to think negatively though they accept the severity. On the other hand, susceptibility is positively correlated with three other health belief subsets namely perceived confidence, perceived barrier and motivation, which

are statistically significant. The perception of confidence is significantly correlated with perceived susceptibility, perceived seriousness, perceived barriers, and motivation; the perception of benefits is significantly correlated with, perceived seriousness, perceived barriers, and motivation; perceived barriers and the perceived motivation are significantly correlated with all other health belief subsets.

Table No.4: Relationship between awareness and Health Beliefs regarding Breast Cancer and Breast self Examination

| CORREL | AWARENESS | SERIOUSNESS | SUSCEPTIBILITY | CONFIDENCE | BENEFITS | BARRIER | MOTIVATION |
|----------------|-----------|-------------|----------------|------------|----------|----------|------------|
| AWARENESS | 1.000 | 0.791 | 0.991 | 0.903 | 0.747 | 0.842 | 0.806 |
| SERIOUSNESS | 0.791 | 1.000 | 0.801 | 0.865 | 0.992 | 0.984 | 0.983 |
| SUSCEPTIBILITY | 0.991 | 0.801 | 1.000 | 0.934 | 0.755 | 0.853 | 0.815 |
| CONFIDENCE | 0.903 | 0.865 | 0.934 | 1.000 | 0.804 | 0.931 | 0.909 |
| BENEFITS | 0.747 | 0.992 | 0.755 | 0.804 | 1.000 | 0.956 | 0.952 |
| BARRIER | 0.842 | 0.984 | 0.853 | 0.931 | 0.956 | 1.000 | 0.992 |
| MOTIVATION | 0.805573 | 0.983068 | 0.815121 | 0.908742 | 0.952455 | 0.992401 | 1 |
| p Values | AWARENESS | SERIOUSNESS | SUSCEPTIBILITY | CONFIDENCE | BENEFITS | BARRIER | MOTIVATION |
| SERIOUSNESS | 0.061 | | 0.056 | 0.026 | 0.000 | 0.000 | 0.000 |
| SUSCEPTIBILITY | 0.000 | 0.056 | | 0.006 | 0.083 | 0.031 | 0.048 |
| CONFIDENCE | 0.014 | 0.026 | 0.006 | | 0.054 | 0.007 | 0.012 |
| BENEFITS | 0.088 | 0.000 | 0.083 | 0.054 | | 0.003 | 0.003 |
| BARRIER | 0.035 | 0.000 | 0.031 | 0.007 | 0.003 | | 0.000 |
| MOTIVATION | 0.053 | 0.000 | 0.048 | 0.012 | 0.003 | 0.000 | |

CONCLUSION

Though there are voices raising for sex education in the recent years, need for awareness about the breast and cervical cancer is not that much discussed in the public forum and in the school or college texts. There are certain wrong beliefs existing like it is the God’s curse, the early detection cannot prevent anything, the SBE techniques are hard to learn, etc. which are personally observed by the researcher in the study. The present study highlights that inadequate knowledge about the breast health is found high among rural women that too among the socially, economically and educationally deprived women, warranting an urgent need for formal educational programs to sensitize women regarding the importance of breast cancer screening techniques. These educational programs should consider factors affecting breast cancer screening behaviors especially the self breast exams, clinical breast exams and mammogram. Bearing this in mind the researcher issued printed pamphlets to the respondents and others in rural women, the impact of which is going to be measured and compared later this year.

Conflict of interest: Nil

Acknowledgement: This paper is part of the interim research finding of a Major Research Project, funded by University Grants Commission, New Delhi.

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