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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/17617
DOI URL: http://dx.doi.org/10.21474/IJAR01/17617

RESEARCH ARTICLE

BREAST CANCER AWARENESS AND SCREENING USING BSE, CBE AND CLINICAL FOLLOW UP AMONG RURAL WOMEN OF TRIPURA, NORTH-EAST INDIA

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Manuscript Info

Manuscript History
Received: 28 July 2023
Final Accepted: 31 August 2023
Published: September 2023

Key words:-
Awareness, Breast Cancer, Breast Self Examination, Clinical Breast Examination, North East India

Abstract

Background: Breast cancer is one of the most common causes of cancer morbidity and mortality among females around the globe. In India it's the second most common cancer in females which is chiefly attributed to lack of knowledge on breast cancer and Breast Self Examination (BSE) especially among rural women. The purpose of this study was to assess the level of awareness on breast cancer, BSE and Clinical Breast Examination (CBE) of rural women having breast problems and their follow up.

Methodology: This cross sectional descriptive study was carried out in the rural area around AGMC, Agartala, Tripura among the women. The data was collected by social workers from door to door using a predesigned questionnaire covering various aspects. Brief talk on awareness and BSE was given in form of on-site group discussions.

Results: Out of 774 participants, majority belonged to the age group of 40-50 years having school level education(46.8%), married(88.5%), home maker(54.6%), below poverty line (58.8%). Most common electronic source of information were television/radio(75.4%). Most of them identified family history(72.7%) as risk factor & breast lump(100%) as most common symptom of breast cancer. Lacking knowledge about BSE(40.3%) was identified as an important barrier for conducting it. Only 17.8% practiced BSE.

Conclusions: This study showed that the overall knowledge of breast cancer and BSE is inadequate and insufficient which warrants effective sensitization by public health education/programmes thus enhancing the knowledge and prevention strategies. This will help in early detection of breast cancer thus reducing morbidity, mortality and burden of disease.

Introduction:-

Breast cancer is the most common cancer and cause of mortality and morbidity in females around the globe and one fourth (25%) of all female cancers diagnosed in 2018 were of breast cancer.[1]In India, it is the commonest cancer in females(34%).[2][3] Cancer of the breast and cervix uteri were the most common cancers in women. The highest

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burden of breast cancer was observed in metropolitan cities. It is the most common cancer in Delhi, Mumbai , Ahmedabad & Kolkata.[4][5][6]

There is an increase in the trend of incidence of breast cancer, whereas cervix/uterine cancer is on the decline. A steady increase in breast cancer in most of the PBCRs including newer PBCRs, poses a great health challenge to women in India.[7] In Tripura, the breast cancer is the second commonest cause of all cancer cases among women after cervical cancer, the incidences of which were 607(13.8%) cases and 772(17.6%) cases respectively in the 5 years study period (2010-2014) published in 2016(NCRP – ICMR data). A multidisciplinary approach to breast cancer, including awareness programs, preventive measures, screening programs for early detection, and availability of treatment facilities, are vital for reducing both incidence and mortality of cancer in Indian women.[8]

The success of breast cancer screening services depends on the awareness among women and is influenced by socio-demographic and socio-cultural factors, as well as organizational and structural factors associated with the health system.[9]

For the majority of Indian women, the breast self-examination(BSE) is a more feasible screening method as there is poor access to mammogram services or even a clinical breast examination in especially remote rural areas.[10] BSE is a self-assessment performed by women to determine the changes in the appearance and consistency of their breasts as an early indicator of breast cancer.[11]Most developed countries no longer recommend BSE as a part of breast cancer screening due to the lack of evidence regarding the improved detection or survival of women with breast cancer. However, it is believed that BSE is valuable as women are familiar with their own breasts & they understand what is normal and promptly report the changes.[12] For those who live in poverty and rural areas with very little or no access to breast cancer screening by clinicians' examination or mammograms, BSE is still the only screening option available.[13]

In spite of several national programmes like NPCDCS (from 2012 to 2017),[14] to increase awareness and early detection behaviours, the mortality rates for breast cancer continue to rank the highest in the country.[15]

Several studies has been done so far to assess the knowledge of breast cancer and breast screening practices among women around the globe but only few studies has been done in India till now. Surprisingly no such study has been done in the state of Tripura so far.

Considering the paucity of literature on this subject among poor urban as well as rural women of India, we aimed this research to assess the awareness of breast cancer and practice of BSE and their determinants among women residing in rural underprivileged areas of Tripura.

Objectives:-

1. To assess the knowledge of breast cancer awareness and breast self examination among the rural women of Tripura (more than 20 yrs of age).
2. To determine the effectiveness of health education and practices among rural women on BSE.

Materials And Methods:-

The present cross sectional study was conducted in five randomly selected villages in the field service area of Mohanpur&Bhati-Abhoynagar under the Department of Community Medicine, AGMC & GBP Hospital, Agartala, Tripura. The study was carried out for a period of 6 months w.e.f. January, 2015 to June, 2015. Women aged 20-65 years residing in the study area for the last one year were included in the study and the data was collected by a door to door survey using a pre-tested and predesigned questionnaire (both in English and Bengali) after obtaining informed written consent. This study was a community based cross sectional study with both quantitative & qualitative technique. A field investigating team comprising a doctor, medical social worker, nurse and a laboratory Technician had visited villages, organised health awareness programmes especially about breast cancer, focus group discussions, and also collected data by face to face interview method ensuring confidentiality of participant's response.

Inclusion criteria:
Women between 20-65 years of age that were present in the study area and were willing and gave consent to participate in the study.

Exclusion criteria:
Women who were not present in the study area during the field investigator's visit and those who were already diagnosed with breast cancer and under treatment, pregnant/ lactating women and those who were not willing and did not give consent for the study were excluded.

Sample size:
A total of 774 women were included in the study who consented to participate in this study.

Ethical issues:
This study was carried out as a part of DBT, Govt. Of India approved and funded project which was cleared by the Institutional Research cell and later ethical permission was granted by the Institutional ethics committee.

Statistical Analysis:
Data were analyzed using Microsoft Excel and SPSS statistical package version 22. Data was expressed in proportions with 95% confidence interval (CI). Pearson's chi-square test was applied as test of significance considering $P < 0.05$ as statistically significant.

Results:-

Table1:- Socio-demographicprofileofstudyparticipants.

Socio-demographic variables		**Frequency(%) N=774 (100%)**
Age Group (In years)	20-30	121 (15.6)
	30-40	236(30.5)
	40-50	282 (36.4)
	50-60	135 (17.4)
Education	Illiterate	266 (34.4)
	School	362 (46.8)
	College	146(18.9)
Occupation	Homemaker	423 (54.6)
	Student	92 (11.8)
	Workingwomen	259 (33)
Socioeconomicstatus	Abovepovertyline	319 (41.2)
	Belowpovertyline	455 (58.8)
Maritalstatus	Married	685(88.5)
	Unmarried	58 (7.5)
	widowed	31 (4)

In total there were 774 participants in the study. Majority of the participants belonging to the age group of 40 to 50 years were having school level education (46.8%), married (88.5%), home maker(54.6%) and below poverty line (58.8%).

Table2:-Knowledge ofBreast cancer amongtherespondents.

		Frequency(%) N=774 (100%)
Awareness on breast cancer	Cancercanoccurinbreast	774 (100)
	Knows Breastcancerisakillerdisease	560 (72.3)
	Knows Breast cancer can be detected by	309(39.9)

	investigations	
	Knows thatearlydetectionofbreastcancercanimprovesurvival.	428(55.3)
	Considers Breastcanceriscommunicabledisease	146(18.8)
Source of information	Television,Radio	584(75.4)
	Newspaper,Magazines	88 (11.4)
	Relativesorfriendswhohavebreastcancer	138(17.8)
	Internet	53(6.8)
	Doctor/Healthcareworkers	443 (57.2)
	Academicinstitutesandbooks	98 (12.6)
KnowledgeaboutriskfactorsofBreastcancer	Age	488 (63)
	Marriedwomenwithoutchildren	117 (15.1)
	Menarchebelow12years	59 (7.6)
	Familyhistoryofbreastcancer	563(72.7)
	Firstchildaftertheageof30years	94 (12.1)
	Highfatdiet	141(18.2)
	Oralcontraceptivepills	439 (56.7)
	ShortorNobreast-feedingduration	288 (37.2)
	Exposuretoradiation	179 (23.1)
	Previoustreatmentofbreastcancer	538(69.5)
	Obesity	303 (39.1)
KnowledgeaboutsymptomsofbreastcancerKnowledgeaboutsymptomsofbreastcancer	Lumpinthebreast	774 (100)
	Nippledischarge/bleeding	242 (31.2)
	Changeinbreast shape	59 (7.6)
	Discolorationofthebreast	84 (10.8)
	Dimpling/Pullinginofthenipple	51 (6.6)
	Lumpunderthearmpit	18 (2.3)

Most common source of information was found to be television and radio (75.4%).

Most of the participants identified family history(72.7%), previous treatment of breast cancer(69.5%), age(63%) followed by oral contraceptive pills(56.7%) as risk factors of breast cancer. Lump in the breast (100%) and nipple discharge/bleeding (31.2%) were identified as symptoms of breast cancer by most of the participants.

Table3:-Knowledge and practiceofBSE amongtherespondents.

		Frequency(%) N=774 (100%)
KnowledgeofBreastSelf-Examinationoftherespondents.		
Awareness of Breast Self Examination (BSE)	Knows about BSE*	312 (40.3)
Knowledge regarding who should do BSE	Only Female	459 (59.3)
	Both Male and Female	234 (30.2)
	Don'tKnow	81 (10.5)
Knowledge on FrequencyforBSE	Daily	54(7.1)
	Monthly	300 (38.8)
	Weekly	108 (14)
	Yearly	78 (10.1)
	Don'tKnow	234 (30.2)
Perception on importance of BSE	Considers BSEnecessary (includes responses given by women who came to know about BSE during interview)	510 (65.9)
	Knows BSEisessentialforanywomen	64 (8.3)

	aged20yearsandabove	
PracticeofBreastSelf-Examinationoftherespondents.		
Performed BSE	**Yes**	**138 (17.8)**
Reason for practicing BSE (N=138)	Lump	57 (7.4)
	Pain breast	72 (9.3)
	FamilyHistory of breast disease	9 (1.2)

Lacking knowledge about breast self examination(40.3%) was identified as an important barrier for conducting BSE. Only 17.8% of the females, practiced BSE.

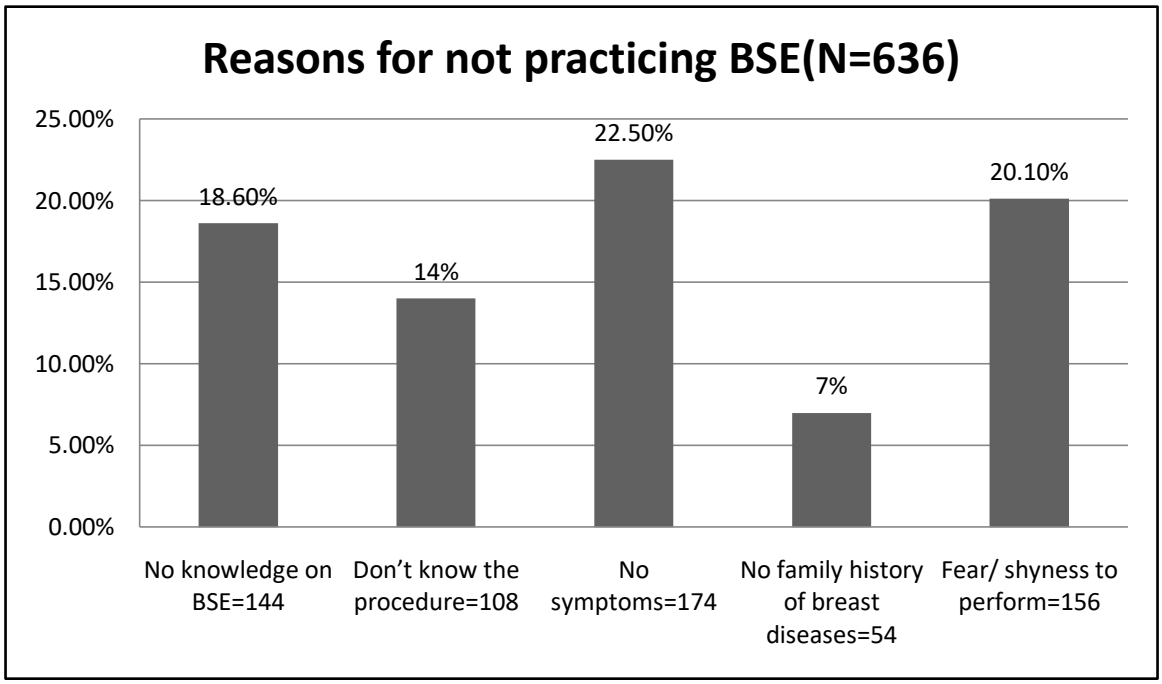

Fig1:- Bar diagram showing reasons cited by the participants for not practicing Breast Self examination.

Table4:- Factors affecting the awarenessofBSEamongtherespondents(n=774).

Socio-demographic factors		**KnowledgeofBSE**		**Test of significance**
		Present N=312(%)	**Absent N=462(%)**	
AgeGroup(Yrs.)	<30	108 (34.6)	156 (33.7)	Chi square value:31.14 P value- 0.00001
	30 -39	126 (40.3)	126 (27.3)	
	40-49	72 (23.1)	132 (28.6)	
	≥50	06(1.9)	48 (10.4)	
Education	PrimarySchool	36 (11.5)	48 (10.4)	Chi square value:19.19 P value- 0.0007
	MiddleSchool	159 (50.9)	279 (60.4)	
	HigherSec.School	30 (9.6)	24 (5.2)	
	Dip/Deg.	42 (13.5)	30(6.4)	
	Illiterate	45 (14.4)	81 (17.5)	
MaritalStatus	Married	285 (91.3)	417 (90.3)	Chi square value:0.43 P value- 0.805
	Single	06(1.9)	12 (2.5)	
	Widower	21 (6.7)	33 (7.1)	

Most of the female had lack of knowledge of self breast examination. Only 40.3% had knowledge of BSE in the age group of 30-39 years.

Discussion:-

BSE is an inexpensive, simple, non-invasive method for early detection of breast tumors. Thus, knowledge about the procedure and consistent practice could protect women from severe morbidity and mortality due to breast cancer.[16]BSE can identify symptoms of breast cancer at early stages of cancer, when the condition can be more successfully treated and thus increasing survival rate from breast cancer. American cancer society, no more recommends BSE as a screening tool for early diagnosis of breast cancer but mammography has been advocated as a screening tool in US. In low resource setting where access to mammography is highly limited, breast self examination (BSE) is considered one of the suitable screening methods.[17]

In total there were 774 participants in our study. Majority of the participants belonged to the age group of 40-50 years who were having school level education (46.8%), were married (88.5%), home maker(54.6%) and below poverty line (58.8%). Similar results were obtained by Jaswanth S et al.[17] Most common sources of information regarding breast cancer were found to be television and radio (75.4%). Similar results were obtained in other studies where Television followed by radio were the most common mass media through which 52% of the women received awareness regarding breast cancer.[16]Similarly TV was the common source of information to women in the study done by Shaista A et al(2016). Therefore, it is important to telecast such informative TV ads and health talk show more frequently on television. The timings of telecasting such information must be convenient to women considering her free timing from daily routine work. Mass media, both print and electronic, social media should be utilized for dissemination of health messages in the community. The different community based organizations can play important role in awareness programmes.

Most of the participants in our study identified family history(72.7%), previous treatment of breast cancer(69.5%), age(63%) followed by oral contraceptive pills(56.7%) as risk factors of breast cancer.

Presence of a lump in the breast was the most common sign of breast cancer known to the participants in the present study, followed by nipple discharge/bleeding. Similar results were obtained by Kumarasamy H et al & Nafissi **et al** (where 60% of the women were aware of painless mass). [18]

BSE was known to only 40.3% of the respondents in our study, a finding consistent with a study in Bangladesh & Pakistan which found that only 42% & 40.3% of participants knew about BSE [19][20]. In contrast with our study, a study with female university students in Egypt found that 74.2% knew about BSE, 52.1% about mammogram and 48.3% about ultrasound.[21]

In our study the most common reasons for not doing BSE were having no symptoms(22.50%) followed by fear/shyness in performing BSE and no knowledge on BSE. In contrary, study conducted by Karayurt Ö et al showed that the most common reason for not doing BSE were not knowing how to perform BSE(98.5%).[22]

Though there has been difference in the awareness about breast cancer and BSE, the only thing consistent with most of the study is that higher education status is associated with better awareness about breast cancer and BSE. In some studies even with good knowledge on breast cancer and BSE the practice of BSE is still poor.[16][23]

Conclusion:-

The present study found that majority of the women were aware of breast cancer but doesn't have much clue regarding breast self-examination and very few participants were practising BSE. Current study emphasise the need to conduct breast cancer awareness programmes with main focus on BSE in rural communities to enhance the knowledge and prevention strategies in order to reduce morbidity and mortality due to breast cancer thus reducing the burden of breast cancer.

Conflicts Of Interest:-

Nil.

Acknowledgement:-

We are thankful to Department of Biotechnology, Government of India for funding this research project. A vote of thanks to all the patients who participated in this study.

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