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BREAST CANCER AWARENESS AMONG UNIVERSITY STUDENTS, BURLA, ODISHA

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Abstract:
In India, cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year. The common sites for cancer in India for females are cervix, breast, and oral cavity. Breast cancer accounts for 19%–34% of all cancer cases among women in India. Our objective of study was to assess the awareness of breast cancer and its risk factors among females of reproductive age group due to the worrisome scenario of rising incidence of breast cancer in India in that particular age group. This cross‐sectional study was carried out in 200 Sambalpur University students in the age group 18–30 years after taking informed consent from them. A self‐administered pretested questionnaire was used to collect the relevant details. Care was also taken to ensure privacy and confidentiality. The most common source of information about breast cancer features and risk factors was found to be Internet 96(49.7%); friends and family 90(46.6%); TV 83(45.8%). 87(45%) of respondents said that smoking is the risk factor for breast cancer, followed by alcohol consumption 81(41.1%), radiotherapy 59(30.5%), trauma to breast area 55(28.4%), abstinence from breast feeding 55(28.4%).
Keywords: Breast cancer, Radiotherapy, Risk factor

Introduction

Breast cancer is by far the most frequent cancer among women, with an estimated 1.67 million new cases diagnosed in 2012 (about 25 per cent of all cancers). It is now the most common cancer both in developed (794,000 cases) and developing regions (883,000cases). Incidence rates vary from 27 per lakh women in Eastern Africa to 98 per lakh women in Western Europe. The range of mortality rate is similar, approximately 6-20 per lakh, because of the more favorable survival of breast cancer cases in developed countries. As a result, breast cancer ranks as the fifth cause of death from cancer, but it is still the most frequent cause of cancer death in women in developing regions. [1] In the year 2014, about 180,000 cases of invasive breast cancer and 40,000 deaths will occur in the United States. In addition, about 2000 men will be diagnosed with breast cancer. Epithelial malignancies of the breast are the most common cause of cancer in women (excluding skin cancer), accounting for about one third of all cancer in women.[2]

It is estimated that during the year 2012, about 144,937 new cases of breast cancer in women occurred in India, which accounts for 27.0 per cent of all malignant cases (an incidence rate of 25.8 per lakh population). About 70,218women died of this cancer (mortality of 21.5 per cent of all cancer cases), mortality rate being 12.7 per lakh population, ranking number one killer in women.[1]

In India, we are now witnessing more and more numbers of patients being diagnosed with breast cancer to be in the younger age groups (in their thirties and forties). 25 years back, out of every 100 breast cancer patients, 2% were in 20 to 30 years age group, 7% were in 30 to 40 and so on. 69% of the patients were above 50 years of age. According to ASCO (American Society of Clinical Oncology), out of every 100 women with breast cancer in the US, 89 women are likely to survive for atleast 5 years. For India, this figure is not even more than 60%. [3]

Trends in Acharya Harihar Regional Cancer Centre (AHRCC), Cuttack, Odisha reflects the status of cancer and breast cancer in Odisha. A total 74,861 cancer inpatients were registered at AHRCC from 2001 till 2011among which proportion of females (52.8%; 95%CI 52.35-53.11%) were more than males (47.2%; 95%CI 46.89-47.65%). There is increase in number of breast, cervix, uteri and ovary cancers among female from 2001-2011.For instance, the percentage of breast cancer in 2008 was 28.94% while it rose to 31.64% in 2011.[4]

Sambalpur University, which is located at the outskirts of Burla, is the central hub of varieties of educational streams for not only Western Odisha but also for the nearby regions of neighbouring states. As this University hosts ample of female students in reproductive age group ranging from low to high socioeconomic groups; we chose them as the study subjects for our study. Thus, the present study was embarked upon to study the awareness of breast cancer and its risk factors among females of reproductive age group due to the worrisome scenario of rising incidence of breast cancer in that particular age group.

MATERIALS AND METHODS

Study type:

Cross sectional study

Study area:

The study was conducted at the Sambalpur, University, Jyoti Vihar, Burla**.**

Study duration:

The study was conducted over a period of three months starting from December 2018 to February 2019**.**

Study subjects:

The female of reproductive age group studying in Sambalpur University, Jyoti Vihar, Burla.

Sample size:

Consecutive sampling method was adopted to meet the sample size of 200 in a duration of four weeks of data collection excluding Sundays and official holidays, 25 working days data was collected by taking verbal consent from the female students.

Methods of data collection:

The female students were interviewed by taking informed consent using a predesigned and pretested semi structured questionnaire on each working day excluding Sunday and official holidays at Sambalpur University. All interviews were conducted in participant's native language, usually Odiya and Hindi. Questionnaire topics included socio-demographic parameters, knowledge of breast cancer and it's prevention. Questions about awareness of breast cancer, sources of information, warning signs, risk factors, screening methods of breast cancer were asked.

Data analysis**:** Template was generated on MS-Excel sheet. Descriptive analysis and frequency distribution was done using statistical method.

RESULTS:

TABLE 1: SOCIO-DEMOGRAPHIC PROFILE OF STUDY SUBJECTS (N=200)

Variables	Frequency	Percentage
Age(years)		
• 19-22	152	76.0%
• 23-26	40	20.0%
• 27-30	8	4.0%
Education		
• M.Phil	19	9.5%
• P.G	176	88%
• Ph.D	05	2.5%
Occupation		
• Research Scholar	14	7.0%
• Student	186	93.0%
Type of family		
• Joint	54	27.0%
• Nuclear	146	73.0%
Ethnicity		
• Gen	74	*37.0%*
• OBC	71	*35.5%*

• SC	20	*10.0%*
• ST	35	*17.5%*
Religion		
• Hindu	182	91.0%
• Muslim	1	0.5%
• Christian	17	8.5%
Marital status		
• Married	2	1.0%
• Single	198	99.0%
Total	200	100%

Table No.1 depicts that out of 200 study subjects, maximum 152(76%) belonged to the age group of 19-22 years, followed by age group 23-26 years 40(20%) and 8(4%) of them were between 27-30 years of age. Education-wise 19(9.5%) were M.Phil, 176(88%) were PG and 05(2.5%) were Ph.D. Maximum of them were students 186(93.0%) and rest were research scholars 14(7.0%). Out of 200 study subjects 146(73.0%) had a nuclear family and rest had joint family 54(27.0%). Ethnicity-wise maximum of them were from the general category 74(37.0%), 71(35.5%) from OBC, 20(10.0%) from SC, 35(17.5%) from ST. Among the study subjects, most of them were Hindu 182(91%) followed by Christian 17(8.5%) and 1 was Muslim(0.5 %).

TABLE 2: AGE AT MENARCHE (IN YEARS) (N=200)

Age (years)	Frequency	Percentage
10	1	5.0%
11	6	3.0%
12	38	19.0%
13	71	35.5%
14	65	32.5%
15	15	7.5%
16	2	1.0%
17	2	1.0%

Table no. 2 represents that out of 200 study subjects, maximum number of study subjects had their menarche at the age of 13 years (35.5%) followed by 65(32.5%) study subjects who had their menarche at the age of 14 years.

TABLE 3: AWARENESS OF BREAST CANCER & SOURCES OF INFORMATION (N=200)

Have you heard about breast cancer?	Frequency	Percentage
Yes	193	96.5%
No	7	3.5%
Total	200	100%

Sources of information*(n=193)	Frequency	Percentage
TV	83	45.8%
Radio	7	7.5%
Internet	96	49.7%
Friends & family	90	46.6%
Doctor	35	18%
Health staff	11	5.5%
Others	6	3.1%

**Multiple response question, where N (193) is the study subjects having awareness about breast cancer.*
Table 3 depicts that 193(96.5%) of study subjects have heard about breast cancer, 7(3.5%) of study subjects were unaware. The most common source of information was found to be Internet i.e 96(49.7%), followed by friends and family 90(46.6%) followed by TV 83(45.8%).Others include Books 1(0.5%), during studies 1(0.5%), Newspaper 2(1%) and Teachers 2(1%).

TABLE 4: FAMILY MEMBER HISTORY WITH RELATIONSHIP (N=200)

Family members with breast cancer	Frequency	*Percentage*
Yes	14	7.5%
No	179	89.5%
NA	7	3.0%
Total	200	100%

Relationship(n=14)	Frequency	Percentage
Mother	2	14.2%
Sister	1	7.1%
Aunt	3	21.4%
Cousin	1	7.1%
Grandparent	1	7.1%
Others	6	42.8%
Total	14	100%

Table 4 showed that out of 200 study subjects 179 (89.5%) of study subjects family had no history of breast cancer & 14(7.5%) of family members had breast cancer & 7(3.0%) had not heard about breast cancer. Among the study subjects who had a family history of breast cancer (N=14), maximum 6 (42.8%) were found to be second and third degree relative.

TABLE 5: AWARENESS ABOUT CURABILITY AND FATALITY OF BREAST CANCER (N=200)

Is Breast cancer curable?	Frequency	Percentage
Yes	129	64.5%
No	6	3.0%
Don't know	58	29.0%
*NA	7	3.5%
Total	200	100%

Is Breast cancer highly fatal w/o treatment?	Frequency	Percentage
Yes	131	65.5%
No	7	3.5%
Don't know	55	27.5%
*NA	7	3.5%
Total	200	100%

** 7 study subjects were unaware of Breast cancer*

Table 5 depicts that among 200 study subjects 7 were unaware about breast cancer. The above table represents that 129(64.5%) of the study subjects thought that breast cancer is curable, 131(65.5%) thought that breast cancer is highly fatal without treatment.

TABLE 6: AWARENESS ABOUT WARNING SIGNS OF BREAST CANCER (N=193)

Warning signs*	Frequency	Percentage
Nipple discharge	68	35.2%
Lump	76	39.3%
Early menarche	7	3.6%
Sudden and abnormal change in size	105	54.4%
Change in nipple shape	80	41.5%

**Multiple Response question*

Table 6 represents that out of 200, 193 study subjects were aware about the warning signs of breast cancer, among which most of them responded sudden and abnormal change in size 105(54.4%), lump 76(39.3%), change in nipple shape 80(41.5%), nipple discharge 68(35.2%) as the warning signs of breast cancer.

TABLE 7: AWARENESS ABOUT RISK FACTORS OF BREAST CANCER (N=193)

Risk factors*	Frequency	Percentage
Radiotherapy	59	30.5%
Hormone Replacement Therapy	47	24.3%
Obesity	34	17.6%
Lack of physical exercise	36	18.6%
Smoking	87	45%
Alcohol	81	41.1%
Oc pills	44	22.7%
Family history	43	22.2%
Abstinence from breast feeding practice	55	28.4%
Early menarche	13	6.7%
Late menopause	28	14.5%
Trauma to breast area	55	28.5%

**Multiple Response question*

Table 7 depicts that 87(45%) of respondents said that smoking is the risk factor for breast cancer, followed by alcohol consumption 81(41.1%), radiotherapy 59(30.5%), trauma to breast area 55(28.4%), abstinence from breast feeding 55(28.5%).

TABLE 8: AWARENESS ABOUT SCREEENING METHODS (N=193)

Screening methods*	Frequency	Percentage
Clinically	65	33.6%
BSE	72	37.3%
Mammography	54	27.9%
USG	37	19.1%

**Multiple response question*

Table 8 reflected that 72(37.3%) said that BSE is screening method for breast carcinoma followed by clinically 65(33.6%), mammography 54(27.9%), USG 37(19.1%).

DISCUSSION

In the current study, 96.5% of the study subjects had heard about breast cancer. This is much higher than the awareness found in the study by Mummahad A Hadi et al where the percentage of female university students having knowledge about breast cancer was 60.7%.[5]But in a study conducted by Godfrey K et al,98% students were aware about breast cancer.[6]

Out of the 200 study subjects,96(49.7%) said the source of information for breast cancer was internet, followed by friends and family 90(46.6%), TV 83(45.8%). This is comparable to the results obtained by Godfrey K et al where 56.9% had received information about breast cancer from mass media.[6] Studies done by Kumar *et al.* and Seth *et al.* have shown low awareness levels of risk factors. Low awareness levels are also a consequence of low informed coverage through different forms of media, including television and newspaper. [7,8]

In our study, 96.5% had knowledge about the warning signs of breast cancer. This is sufficiently high in comparison to the study conducted by Suwarna Madhukumar et al in which only 58% had knowledge of warning signs.[9] In a similar study conducted by K Godfrey et al, only 61.3% had knowledge about risk factors and signs.[6]

In our present study,96.5% showed awareness about risk factors. Out of which,45% said smoking is the risk factor followed by alcohol consumption. But the study by Suwarna Madhukumar et al revealed only 59% of the college students having knowledge about atleast one risk factors.[9] . In a similar study done by Lemlem *et al*., 57.8% of study women were aware of the breast carcinoma and its screening methods.[10] This knowledge level is poor and is comparable to a similar study in Nigeria among school teachers, where only 27% of the participants were able to identify three risk factors correctly.[11]

CONCLUSION

The present study was a cross sectional study, conducted among 200 females of reproductive age group studying at Sambalpur University, JyotiVihar, Burla. The age profile showed the majority of females

in the study group to be in the age 19-22 years. Education wise most of the study subjects were post graduates (88%).73% of them belonged to nuclear families. While majority of them were Hindu by religion (91%), 37% of them were from general category. Among the 200 study subjects maximum number of them had their menarche at the age of 13 years (35.5%).It was found that 96.5% of the study subjects had heard about breast cancer. Most common source of information was found to be internet (49.7%). While most of the study subjects had no family history of breast cancer, those had positive family history (7.5%), were mostly second and third degree relative.64.5% of the study subjects thought that breast cancer is curable and 65.5% thought that breast cancer is highly fatal without treatment. 87(45%) of respondents said that smoking is the risk factor for breast cancer, followed by alcohol consumption 81(41.1%), radiotherapy 59(30.5%), trauma to breast area 55(28.4%), abstinence from breast feeding 55(28.4%). 72(37.3%) said that BSE is screening method for breast carcinoma followed by clinically 65(33.6%), mammography 54(27.9%) and USG 37(19.1%).

Widespread awareness campaigns can be conducted in schools and colleges to increase awareness about signs and symptoms of breast cancer and advocate that breast cancer is curable if diagnosed early. Encouraging specific education among female students about early screening methods can help to improve their perception about breast cancer. This in turn will facilitate them to learn BSE and practice it regularly.

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