Awareness on breast cancer among females at Bharatpur metropolitan, Chitwan, Nepal

Laxmi Neupane[1]*, Hari Prasad Upadhyay[2], Chandrakala Chhetri[1]

[1]Department of Nursing, BP Koirala Memorial Cancer Hospital Nursing College, Bharatpur-7, Chitwan, Nepal
[2]Department of Statistics, Birendra Multiple Campus, Bharatpur-10, Chitwan, Nepal

ABSTRACT

Introduction: Breast cancer is the most frequently diagnosed cancer in the world and second most common malignancy among Nepalese women with high prevalence. Countries with lower level of resources like Nepal, prevention of breast cancer is more important. The objective of the study was to find out the level of awareness on breast cancer among female at Bharatpur Metropolitan, Nepal. **Methods:** An analytical cross- sectional study was conducted among 263 female of Bharatpur Metropolitan city, Nepal. Non probability purposive sampling technique was used for data collection. Data was entered and analyzed by using SPSS-20, p-value <0.05 was considered as statistically significant. **Results:** The mean±SD of age was found 34.40±11.42 years. Study showed that 61.2% (with 95% CI as 55.32-67.1%) had good awareness on risk factors, 60.5% (with 95% CI as 54.54-66.36) had good awareness on warning sign and symptoms and only 44.5% (with 95% CI as 38.48-50.49) had good awareness on screening and prevention. Overall level of awareness on breast cancer was found poor (50.2%). The mean+SD of overall awareness of the respondents on breast cancer was 15.51±2.84. Statistical significant association was found between overall level of awareness and respondents' education (p=0.039), husband education (p=0.011) and occupation (p=0.046) of the respondents. **Conclusions:** More than half of the respondents has poor level of awareness on breast cancer among women in Bharatpur, Chitwan, Nepal. Better health awareness among women in the community, breast cancer screening programmes and national policies to establish effective cancer literacy programs would cause a favorable and positive clinical picture in the country.

Keywords: Breast cancer, prevention and screening, risk factor, sign and symptoms.

***Correspondence:**
Mrs. Laxmi Neupane
BP Koirala Memorial Cancer Hospital Nursing College
Bharatpur-7, Chitwan, Nepal
E-mail: laxmibpkmch2017@gmail.com
Phone no. +977-9845050145

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INTRODUCTION

Breast cancer refers to a malignant tumour that has developed from the cells in the breast. It is the most frequently diagnosed cancer in women, accounting for 27% of all new cases of cancer among females in 2009. It is the leading cause of death due to cancer for women aged 20 to 59 years of age.[1] Worldwide, breast cancer is one of the most common cancer and second leading cause of cancer death among women.[2] In India, breast cancer has ranked number one cancer among women. Age adjusted rate is 25.8 per 100, 000 women and mortality 12.7 per 100,000 women[3] and in Nepal, among 4608 new diagnosed cancer cases, 466(10.11%) were breast cancer that is third rank in men and women and second rank in women after cervical cancer.[4] Around half (49%) of the women were aware of breast cancer. The women who were aware of breast cancer considered lump in breast (75%), change in shape and size of breast (57%), lump under armpit (56%), pain in one breast (56%) as the important and common symptoms. Less than one-fifth of the women who were aware of breast cancer reported late pregnancy (15%) and obesity (19%) as the risk factors for breast cancer.[5] Among 900 respondents, approximately half of the respondents 435(51.8%) were aware of breast cancer. Of these, 99(22.7%) believed that it was caused by a medical condition, followed by old

age (71; 16.4%), heredity (56; 12.8%), and pregnancies in older women (33; 7.5%). Overall, 152 participants (34.9%) were aware of breast self-examination (BSE), but only 93 (11%) had performed it.[6] Most of the women (57%) who had some knowledge about breast cancer came from media (television, radio, and newspapers). Other sources were hospital staff (19%) and neighbors and relatives (11%). Regarding different aspects studied, 58% had a knowledge of at least one of the symptoms and 59% knew at least one of the risk factors for breast carcinoma.[7]

Several studies were conducted focusing on prevention and treatment. Although, breast cancer prevention remains very difficult task, different intervention studies suggest that modifiable risk factors may be prevented through promotion of healthy diet, regulating alcohol consumption, avoiding smoking and controlling weight can help to reduce the incidence of breast cancer.[5] There are different screening approach including mammogram, to reduce mortality.[4] Now, breast cancer is global issue but it is diagnosed in the late stages due to the lack of awareness.[8] It places a substantial burden on health care system.[9] Public awareness on risk factors and improved screening helps earlier diagnosis, complete surgical resection and cure. Early diagnosis of the disease can lead to good prognosis and improved survival.[10] Therefore, the present study tries to assess the awareness on signs and symptoms, risk factors and screening and prevention of breast cancer among women in the low socio-economic community.

METHODS

An analytical, cross-sectional study was conducted among female at Bharatpur metropolitan city-8, Chitwan, Nepal from November 29, 2022 to January 27, 2023. Research was approved by COMSTH-IRC Bharatpur Chitwan. Ethical clearance was obtained from Institutional Ethical Committee (Reference no. 2022-38/1). Data collection permission was obtained from Bharatpur Metropolitan City, 8 no. ward office on 2079/08/13 (Ref No.079/080, Chalani no. 1312). Informed and written consent was taken from all the females before data collection. In Bharatpur ward no.8 there are 22 toles. Among them, three toles were selected purposively because majority of the females in this areas belonged to a low socioeconomic status family (marginalized people live in these toles). The study population of this research was females of age between 16 to 60 years. Women who were already diagnosed with breast cancer and under treatment were excluded from this study.

A study conducted by Thapa et al., among female worker (attendants) of at Patan Hospital and Lalitpur Nursing Campus of Patan Academy of Health Science showed that 35.43% had good level of awareness.[12] By taking this as a prevalence with a 95% confidence interval and 6% as the margin of error sample size was calculated (n=244). By adding 8% non-response rate, the optimal sample size will be= 244+19=263. Data was collected by using face to face interview method. Privacy of respondents' information was maintained by taking interviews in a separate room. Respondent's dignity was maintained by giving them the right to reject or discontinue the research study at any time if they do not want to participate in the study. Confidentiality was maintained by not disclosing the information to others. All collected data were reviewed and checked daily for its completeness, consistency, and accuracy. Data were edited, organized, coded, and entered in IBM SPSS Statistics 20.0 for analysis. Data were analyzed using descriptive and inferential statistical tools. In the descriptive statistics for categorical variables frequency and percentage were be calculate. While for continuous variable mean and standard deviation was be calculated. In the inferential statistics to find the association between categorical variable chi-square test will be used. P-value <0.05 will be considered as statistically significant.

RESULTS

Out of 263 respondents, 79(30.04%) were less than 25 years and only 47(17.87%) were more than 45 years with Mean±SD = 34.40±11.42 and the range was 17 to 60 years. Most of the women were married 219(83.27%) and followed Hindu religion 214(81.37%) and Adivasi/ Janajati were 127(47.15%). Concerning educational status, 110(41.82%) had secondary education and 21(7.98%) had no education. Among 219(83.27%) married women, 104(39.54%) women's husbands had secondary-level education. About 114(43.34%) respondents' occupation was unskilled (Table 1).

Table 1: Sociodemographic characteristics of the respondents (N=263)

Variables	Frequency	Percentage
Age		
≤25	79	30.04
25-35	73	27.76
35-45	64	24.33
≥45	47	17.87
Mean±SD	34.40±11.42	
Marital Status		
Married	219	83.27
Unmarried	44	16.73

Religion		
Hindu	214	81.37
Buddhist	45	17.11
Christian	4	1.52
Ethnicity		
Brahmin/Chhetri	108	41.06
Madhesi	4	1.52
Dalit	27	10.26
Adivasi/Janajati	124	47.15
Education		
No education	21	7.98
Basic education	102	38.78
Secondary education	110	41.82
More than secondary	30	11.41
Education (Husband)		
No education	61	23.19
Basic education	73	27.76
Secondary education	104	39.54
More than secondary	25	9.50
Occupation		
Sales and Services	20	7.60
Skilled Manpower	39	14.83
Unskilled Manpower	114	43.34
Agriculture	72	27.38

Table 2 shows that, level of awareness was good on risk factors 161 (61.2%) (Mean±SD: 4.96±1.87, CI: 55.32-67.1), poor on screening and prevention 146 (55.5%) (Mean±SD: 6.11±1.46, CI: 38.48-50.49), good on warning sign 159 (60.5%) (Mean±SD: 4.44±0.08, CI: 54.54-66.36) and poor on overall awareness on breast cancer 132 (50.2%) (Mean±SD: 15.51±2.84, CI: 43.75-55.80).

Table 2: Level of awareness on breast cancer (N=263)

Variables	Frequency	Percent	95% CI	
			Lower CI	Upper CI
Risk factors				
Poor	102	38.80		
Good	161	61.20	55.32	67.10
Mean±SD	4.96±1.87			
Screening and prevention				
Poor	146	55.50		
Good	117	44.50	38.48	50.49
Mean±SD	6.11±1.46			
Warning sign and symptoms				
Poor	104	39.50		
Good	159	60.50	54.54	66.36
Mean±SD	4.44±0.80			
Overall				
Poor	132	50.20		
Good	131	49.80	43.75	55.80
Mean±SD	15.51±2.84			

Significant association was found between overall level of awareness and respondents' education (p=0.039), husband education (p=0.011) and occupation (p=0.046). Higher level of awareness was found on having secondary level of education of the respondents and more than sec. education of the respondent's husband and respondents' occupation of sales and services (Table 3).

Table 3: Association between overall levels of awareness with selected demographic variables (N=263)

Variables	Level of Awareness		Chi square	p-value
	Poor	Good		
Age				
<25	43(54.4%)	36(45.6%)		
25-35	32(43.8%)	41(56.2%)	6.88	0.74
35-45	27(42.2%)	37(57.8%)		
>45	30(63.8%)	17(36.2%)		
Marital Status				
Married	109(49.8%)	110(50.2%)	0.92	0.76
Unmarried	23(52.3%)	21(47.7%)		
Religion				
Hindu	101(47.2%)	113(52.8%)		
Buddhist	29(64.4%)	16(35.6%)	4.425	0.10
Christian	2(50.0%)	2(50.0%)		
Ethnicity				
Brahmin/Chhetri	49(45.4%)	59(54.6%)		
Madhesi	1(25.0%)	3(75.0%)	3.06	0.38
Dalit	15(55.6%)	12(44.4%)		
Adivasi/Janajati	67(54.0%)	57(46.0%)		
Education (Wife)				
No Education(Illiterate)	15(71.4%)	6(28.6%)		
Basic Education(up to class 8)	55(53.9%)	47(47.0%)	6.36	0.03
Secondary Education(9-12 class)	48(43.6%)	62(56.4%)		
More Than Secondary(Bachelor and above)	14(46.7%)	16(53.3%)		
Education (Husband)				
No Education(Illiterate)	12(63.2%)	7(36.8%)		
Basic Education(up to class 8)	41(56.2%)	32(43.8%)	5.81	0.01
Secondary Education(9-12 class)	50(48.1%)	54(51.9%)		
More Than Secondary(Bachelor and above)	8(32.0%)	17(68.0%)		
Occupation				
Clerical	10(55.6%)	8(44.4%)		
Sales and Services	6(30.0%)	14(70.0%)		
Skilled Manpower	20(51.3%)	19(48.7%)	7.87	0.04
Unskilled Manpower	52(45.6%)	62(54.4%)		
Agriculture	44(61.1%)	28(38.9%)		

Majority of the respondents 214(81.4%). know that breast cancer is non communicable disease Regarding the risk factors, majority 218(82.9%) respondents answered that alcohol consumption is a risk factor and 216(82.1%) answered smoking as a risk factors while only 106(40.3%) answered having a first child at a late age is a risk factor for breast cancer. Regarding screening and prevention, majority 251(95.4%) of the respondents answered that breast cancer can be prevented if detected early and

246(93.5%) answered clinical breast examination can help for early detection of breast cancer and 173(65.8%) answered that breast self-examination should be started at the age of 20 years or after onset of menarche. Regarding warning sign and symptoms, majority 252(95.8 %) of the respondents answered that they will you go health facility if there are any sign and symptoms of breast cancer. Likewise, 246(93.5%) answered lumps in the breast and armpit is the warning sign of breast cancer followed by changes in the size, shape and color of the breast 233(88.6%), abnormal nipple discharge and retraction 231(87.8%) and dimpling, puckering of the breast skin 207(78.7%) (Table 4).

Table 4: Awareness regarding breast cancer (N=263)

Variables	Frequency	Percent
Breast cancer is non communicable disease	214(81.4)	81.4
Risk factors		
Family history	143(54.4)	54.4
Having a first child at a late age	106(40.3)	40.3
Obesity	124(47.1)	47.1
Increasing age	138(52.5)	52.5
High fat diet intake	146(55.5)	55.5
Alcohol consumption	218(82.9)	82.9
Smoking	216(82.1)	82.1
Screening and prevention		
Breast cancer screening can be done who have no symptoms of breast cancer.	205(77.9)	77.9
Breast cancer can be prevented if detected early	251(95.4)	95.4
Breast self-examination is important for early detection of breast cancer	243(92.4)	92.4
Breast self-examination should be started at the age of 20 years or after onset of menarche	173(65.8)	65.8
Clinical breast examination can help for early detection of breast cancer	246(93.5)	93.5
Mammogram can help for early detection of breast cancer	221(84.0)	84
Early detection and treatment of breast cancer improve chances of survival	241(91.6)	91.6
Warning signs		
Changes in the size, shape and color of the breast	233(88.6)	88.6
Lumps in the breast and around the armpit	246(93.5)	93.5
Abnormal nipple discharge and retraction	231(87.8)	87.8
Dimpling, puckering of the breast skin	207(78.7)	78.7
They will you go health facility if there are any sign and symptoms of breast cancer	252(95.8)	95.8

More than half of the respondents 164(62.4%) got the information from television and radio followed by 108 (41.1%) from peer group, 88 (33.5%) from awareness program, 41(15.6%) from newspaper and 2(0.8%) from others (Table 5).

Table 5: Respondents' sources of information (N=263)

Variables	Frequency	Percent
Television /Radio	164	62.4
Peer group	108	41.1
News paper	41	15.6
Awareness program	88	33.5
Others	2	0.8

DISCUSSION

Breast cancer is the commonest cancer in women but its prevention is more challenging task. However, spreading the awareness regarding its risk factors, early sign and symptoms and different screening methods of breast cancer among public has been a concern in Nepal. The present study examine the awareness on breast cancer among female at Bharatpur metropolitan, Chitwan, Nepal in which, out of 263 respondents, 30.0% were less than 25 years with mean±SD: 34.40±11.42 and range was 17 to 60 years. Most of the women were married 83.3% and follow Hindu religion 81.4%. Adivasi/Janajati were 47.1%, having secondary education 41.8% and unskilled manpower 43.3%. Whereas, another study[11] demonstrated that most of the respondents were young, mean age was 32.3±10.9, single had college level education, unemployed and having no family history of cancer. This study observed that, overall level of awareness on breast cancer was poor (50.2%) with mean±SD: 15.51±2.84. There was a significant association between overall levels of awareness and education (p=0.039), husband education (p=0.011) and occupation (p=0.046) of the respondents. No association was found between level of awareness with age and marital status of the respondents. Whereas, another study[11] showed that there was significant correlation between the age and knowledge about breast cancer screening program (r=0.15, p<0.05). Likewise, marital status was significantly correlated with their knowledge about breast cancer warning signs (r=-0.16, p<0.05) and highly educated females had more knowledge about breast cancer warning signs than others (F=4.1, p<0.00). Present study showed that, majority of the respondents, 81.4% know that breast cancer is non communicable disease. Level of awareness was good on risk factors (61.2%), and 82.9% respondents answered that alcohol consumption is a risk factor, 82.1% smoking, 54.4% family history, 55.5% fat and only 40.3% answered having a first child at a late age is a risk factor for breast cancer. Contrast finding was found on another study[11] which showed the poor level of knowledge about breast cancer risk factors. Likewise another study[5] also showed that women believed consumption of excess tobacco 45% and alcohol 44% followed by consumption of high fat foods 34% and family history 32%. This study observed that, there was poor level of awareness on screening and prevention that is, 55.5%. Majority (95.4%) of the respondents answered that breast cancer can be prevented if detected early and 93.5% answered clinical breast examination can help for early detection of breast cancer and 65.8% answered that breast self-examination should be started at the age of 20 years or after onset of menarche. Similar finding was found on another study[11] that reveals, participants' knowledge on screening is

inadequate about breast cancer screening program and less than half of the participants reported their knowledge of how to perform breast self-examination. Likewise, level of awareness was good in warning sign of breast cancer (60.5%) and majority 95.8% of the respondents answered that they will you go health facility if there is any sign and symptoms of breast cancer. And 93.5% answered lumps in the breast and armpit is the warning sign of breast cancer followed by changes in the size, shape and color of the breast 88.6%, abnormal nipple discharge and retraction 87.8% and dimpling, puckering of the breast skin 78.7%.

Contrast finding was found on another study[11] that reveals there was poor level of knowledge about warning sign of breast cancer. Likewise, another study[5] showed that lump in the breast was considered as symptoms of breast cancer by three- fourth of women. Interestingly, less than half of the women said abnormal discharge or blood from nipple 48%, change in shape or size of nipple 48%, and change in colour 47% as symptoms of blood cancer. Finally, in this study, majority 62.4% got the information from television and radio while nearly similar finding was found on another study[5] where 53% heard about the breast cancer through television.

CONCLUSIONS

This study provides important baseline information regarding the knowledge on breast cancer. The overall perspectives for breast cancer among women is poor in Bharatpur metropolitan. Awareness of breast cancer was significantly associated by education and occupation. It is urgent to have a national breast cancer program in Nepal, while at local level is necessary to raise awareness on breast cancer. The findings suggest an urgent need for interventions to implement and re-enforce existing cancer awareness and cancer screening programs. Health education campaigns will be needed to elucidate the public on the warning sign, risk factors and prevention of breast cancer. Effective media like television can be used to promote breast cancer awareness.

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AUTHORS CONTRIBUTION

LN did conceptualization, project administration, methodology, original draft preparation, formal analysis, reviewing & editing the manuscript. HPU did the methodology, formal analysis, review & editing the manuscript. CC did the data collection.

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