Awareness and Practice regarding Breast Cancer Screening among Women Residing at Bharatpur-7, Chitwan

Pratikshya Dhital[1], Nirmaya Paswan[1]

[1]Department of Nursing, BPKMCH

Background
Breast cancer is one of the leading causes of death among women worldwide. Early detection through screening techniques, increasing awareness related to breast cancer and implementing preventive practices can reduce its impact. The objective of the study was to find out awareness and evaluate the practice of breast cancer screening among women residing at Bharatpur Metropolitan City.

Materials and Methods: A descriptive cross- sectional study design was carried out among 103 women by using non-probability purposive sampling technique from 5 toles of ward no. 7 of Bharatpur Metropolitan. Data were collected by using a structured interview schedule. Collected data was interpreted by using descriptive and inferential statistics and analysed by using SPSS version 22.

Findings: Mean age of the respondents was 38.95 year. Nearly one third (29.1%) were of age group of 30-39 years and majority (92.2%) respondents followed Hindu religion while (72.82%) belongs to Brahmin/ Chhetri. Likewise, only (6.8%) respondents had family history of cancer. The study findings further summarized the level of awareness into three categories where more than half (68.0%) of the respondents had moderate, only (9.7%) had poor level, whereas (22.3%) had good level of awareness regarding breast cancer screening whereas nearly half (45.6 %) had poor practice and more than half (54.4%) had good practice of breast self-examination. Likewise, Educational level (0.039) of respondent was significantly associated with level of awareness at $p \leq 0.05$.

Conclusions: In conclusion, most of the respondents had moderate level of awareness and good level of practice regarding breast cancer screening however the concerned authorities should plan and conduct awareness programs to further minimize risks and enhance the existing awareness regarding breast cancer screening.

Keywords: Awareness, Breast cancer screening, Practice, Breast self-examination.

Introduction

Breast cancer is the most diagnosed with highest number of cancer-related deaths among women worldwide. Increased awareness, public engagement, and advancements in breast imaging have significantly enhanced early detection and screening efforts.[1]

According to the 2024 annual report of BP Koirala Memorial Cancer Hospital, Breast cancer was ranked as the most prevalent cancer with 808 reported cases among both male and female. Among them 47 were male whereas 761 were female. Thus, indicating males are also in increased risk for developing breast cancer.[2] Lifestyle changes, fertility patterns influenced by western cultures, and various other risk factors has increased incidence of breast cancer in recent decades.[3] Higher-than-average risk women can go for BSE and CBE even though it is not regularly recommended by ACS. However a women should always keep track of their breast's looks.[4] Clinical breast examination and mammography require specialized equipment and hospital visits while breast self-examination is a cost-effective, non-invasive method that women can perform independently but the correct method and appropriate timing is often inadequate.[5] If breast

Correspondence: Pratikshya Dhital, A. professor, B P Koirala Memorial Cancer Hospital, Bharatpur, Chitwan. Email: dpratikshya@gmail.com

cancer is detected early then women can go for less toxic and more effective treatment option which include digital mammography.[6] Early detection of breast cancer through various screening methods significantly improve prognosis and treatment outcomes like in some countries, increased awareness about breast cancer screening has contributed to decline in mortality rates.[5] However, in developing countries, delayed diagnosis is often linked with low awareness and limited access to healthcare services.[1] A cross-sectional descriptive study was conducted in Nepal showed that only few (7.3%) had good knowledge about breast cancer screening, while (50%) had poor attitudes. Among the participants, more than half (62%) practiced BSE, 25% underwent clinical breast examination, and only 10% had mammograms.[7]

Methods

A descriptive cross-sectional study design was carried out to assess the level of awareness and practice regarding breast cancer screening among women residing at Bharatpur. Ethical approval was obtained from B.P. Koirala Memorial Cancer Hospital, Institutional Review Committee (Ref. No. 104/081/082). Administrative approval was obtained from ward number 7 of Bharatpur Metropolitan City, Chitwan. The written consent was taken from the women. Samples of the study were 103 women age group of 20 to 59 years residing in 5 different toles near BPKMCH selected by using non-probability purposive sampling technique. A structured interview schedule was used as a research instrument consisting of three parts: Part I: Questions related to socio-demographic variables, Part II: Questions related to awareness regarding Breast cancer screening and Part III: Questions related to practice regarding Breast self-examination. Level of awareness regarding breast cancer screening was measured by using 19 structured interview schedules. Each correct answer was scored 1 and wrong answer was scored 0. The level of awareness was measured by calculating the total scores and classifying in reference to Bloom's cut off point into three categories.[8] Where high level score 80-100%, Moderate level score 60-79% and low level was ≤59%. Similarly, level of practice was measured by using the structured practice questionnaire with 9 items. Each correct answer was score 1, and each incorrect answer was given 0. The level of practice was measured by calculating the total mean value and classified into two categories based on mean value. Above mean value is good practice while Poor practice is below mean value. Validity of the instrument was maintained by extensive literature review, consultation with oncologist and research expert. Reliability of the instrument was maintained by pre – testing in 10% of the total sample in the same setting and those samples were excluded in the main study. Then all collected data were entered and analyzed by Statistical Package for Social Science (SPSS) version 22. Data was interpreted by using descriptive and inferential statistics in terms of mean, frequency and percentage and displayed in different tables.

Results

Out of 103 respondents, nearly one third (29.1%) were in the age group of 30–39 years. The mean age of the respondent was 38.95 years with standard deviation of 10.23, with a minimum of 20 years and a maximum of 59 years. In terms of education, almost half (50.5%) had attained secondary level education. Regarding religion, the majority (92.2%) followed Hinduism. Maximum (72.82%) belonged to the Brahmin/Chhetri group. Majority (94.2%) respondents were married. Regarding family structure, more than half (53.4%) lived in joint families. Likewise, one fourth (46.6%) were engaged in agriculture. Regarding family history of breast cancer, majority (90.2%) of respondents responded no family history of breast cancer. Additionally, more than half (55.3%) respondents got information from mass media about Breast cancer screening.

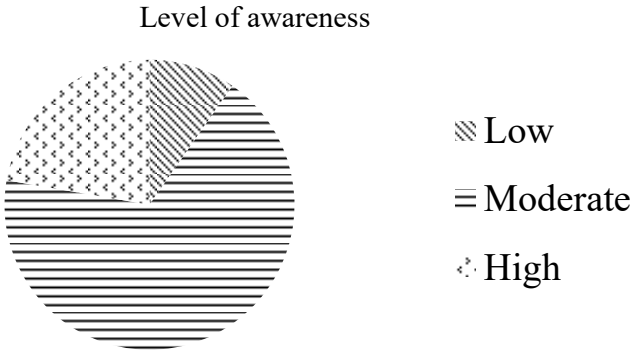

Figure 1: Level of awareness of respondents regarding Breast cancer screening (n=103)

Figure 1 illustrates more than half (68%) of respondents demonstrated a moderate level of awareness, while (22.3%) had high level of awareness. In contrast, only few (9.7%) of participants exhibited a poor level of awareness regarding Breast cancer screening.

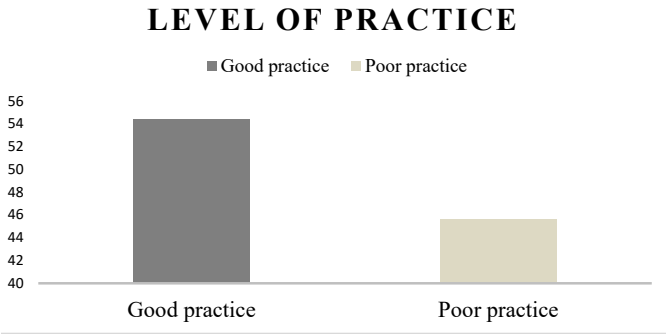

Figure 2: Level of practice of respondents regarding Breast self-examination (n=73)

Figure 2 shows that out of 103 respondents, maximum 73 (70.8%) reported that they had performed BSE. Among which more than half (54.4%) had good practice while remaining (45.6%) of respondents demonstrated poor practice regarding Breast self-examination with mean ±SD 4.26 ±3.13.

Table 1: Association between levels of awareness with selected socio-demographic variables

(n=103)

Variables	Level of awareness			Chi-square	p-value
	(<59%)	(60-79%)	(80-100%)		
Age					
20-30	1(3.6)	20(71.4	7(25.0)		
30-40	1(3.3)	20(66.7)	9(30.0)	8.682	0.192
40-50	6(21.4	17(60.7)	5(17.9)		
50-59	2(11.8)	13(76.5)	2(11.8)		
Educational level					
No education	3(25.0)	9(75.0)	0(0.0)		
Primary level	3(10.0)	22(73.3)	5(16.7)	13.253	0.039*
Secondary level	2(3.8)	34(65.4)	16(30.8)		
High secondary	2(22.2)	5(55.6)	2(22.2)		
Religion					
Hindu	9(9.5)	63(66.3)	23(24.2)		
Buddhist	0(0.0)	5(100.0)	0(0.0)	7.489	0.278
Muslim	1(50.0)	1(50.0)	0(0.0)		
Other	0(0.0)	1(100.0)	0(0.00		
Ethnicity					
Brahmin/Chhetri	7(9.3)	51(68.0)	17(22.7)		
Dalit	0(0.0)	3(75.0)	1(25.0)	4.559	0.804
Janajati	2(100)	14(17.0)	4(20.0)		
Muslim	1(50.0)	1(50.0)	0(0.0)		
Madhesi	0(0.0)	1(50.0)	1(50.0)		
Marital status					
Never married	0(0.0)	3(75.0)	1(25.0)		
Married	10(10.0)	65(67.0)	22(22.7)	2.416	0.66
Widowed	0(0.0)	2(100.0)	0(0.0)		
Family structure					
Joint family	5(9.1)	36(65.5)	14(25.5)	0.677	0.713
Nuclear family	5(10.4)	34(70.8)	9(18.8)		
Occupation					
Agriculture	4(8.3)	38(79.2)	6(12.5)		
Service	2(13.3)	6(40.0)	7(46.7)	9.462	0.149
Business	3(9.1)	21(63.6)	9(27.3)		
Student	1(14.3)	5(71.4)	1(14.3)		
Source of information					
Mass media	8(14.0)	38(66.7)	11(19.3)		
Health worker	2(5.4)	25(67.6)	10(27.0)	4.588	0.598
Family and relatives	0(0.0)	5(83.3)	1(16.7)		
Peer influence	0(0.0)	2(66.7)	1(33.3)		
Family history of breast cancer					
Yes	1(14.3)	4(57.1)	2(28.6)	0.4	0.819

Table 1 shows no any significant association between level of awareness with other socio-demographic variables but only education is statistically significant at p value ≤0.05.

Table 2: Association between levels of practice with selected socio-demographic variables

(n=73)

Variables	Level of practice		Chi-square	p-value
	Poor	Good		
Age				
20-30	5(25.0)	15(75.0)		
30-40	7(26.9)	19(73.1)	4.077	0.253
40-50	9(52.9)	8(47.1)		
50-59	4(40.0)	6(60.0)		
Educational status				
No education	2(100.0)	0(0.0)		
Primary level	8(33.3)	16(66.7)	4.453	0.217
Secondary level	13(32.5)	27(67.5)		
High secondary	2(28.6)	5(71.4)		
Religion				
Hindu	23(33.5)	46(66.7)		

Variables	Level of practice		Chi-square	p-value
	Poor	Good		
Buddhist	1(33.3)	2(66.7)	2.170	0.338
Muslim	1(100)	0(0.0)		
Other				
Ethnicity	19(35.5)	33(63.5)		
Brahmin/Chhetri	2(66.7)	1(33.3)	3.188	0.364
Dalit	4(23.5)	13(76.59)		
Janajati	0(0.0)	1(100.0)		
Muslim	1(50.0)	1(50.0)		
Madhesi	0(0.0)	1(50.0)		
Marital status				
Never married	1(33.3)	2(66.7)		
Married	22(32.4)	46(67.6)	4.397	0.111
Widowed	2(100)	0(0.0)		
Family structure				
Joint family	13(32.5)	27(67.5)	0.120	0.729
Nuclear family	12(36.4)	21(63.6)		
Occupation				
Agriculture	12(41.4)	17(58.6)		
Service	1(9.1)	10(90.9)	4.561	0.207
Business	10(35.7)	18(64.3)		
Student	2(40.0)	3(60.0)		
Source of information				
Mass media	14(38.9)	22(61.1)		
Health worker	10(33.3)	20(66.7)	3.025	0.388
Family and relatives	1(25.0)	3(75.0)		
Peer influence	0(0.0)	3(100.0)		
Family history of breast cancer				
Yes	2(50.0)	2(50.0)	0.444	0.505
No	23(33.3)	46(66.7)		

Table 2 indicated association between level of practice with selected socio-demographic variables among 73 respondents. The result showed socio-demographic variables were not statistically significant at p-value ≤0.05.

Discussion

In relation to socio-demographic finding of the study among 103 respondents, only (29.1%) belongs to 30-40 years of age which is supported by a study conducted in India in 2020 reported that 34% respondent belong to age group 30-40 years[9]. Regarding education, half (50.5%) respondents have completed secondary education which is supported by a study conducted in Vietnam in 2022 reported that less than half (44.4%) respondents have completed secondary education.[10]Likewise, In this study maximum (92.2%) follow Hindu religion which is supported by study conducted in Bharatpur on 2023 reported majority (90.0%) were Hindu religion.[11] Similarly, most of the respondents (94.2%) were married which is supported by a similar article conducted in Lalitpur, in 2021 reported that (98.7%) were married.[7] Similarly, Regarding ethnicity, majority (72.82%) of respondents were Brahmin/Chhetri which is supported by a study conducted among reproductive age in Bharatpur 12 chitwan on 2023 reported that 52.0% were Brahmin/Chhetri.[11] Similarly, More than half (53.4%) were from joint families. Likewise, (46.6%) of respondents were involved in agriculture. Cent percent 100% of respondent belong to Bagmati province. Regarding family history of breast cancer, only (6%) of respondents had a family history of breast cancer which is supported by study conducted in Vietnam in 2025 showed only 3.9% of respondents had a family history of breast cancer.[12] Regarding source of information, more than half (55.3%) respondent got information from mass media which is similar to the study conducted in Gambia West Coast Region in 2023 showed more than half (62.8%) respondents got information from mass media.[13]

Present study showed that among 103 respondents, more than half (68%) respondents demonstrated a moderate level of awareness, while only (22.3%) had a high level of awareness. In contrast, only (9.7%) of participants exhibited a poor level of awareness regarding breast cancer screening. This study is supported by study conducted in Odisha reveals that more than half (76.8%) of participants had medium knowledge. [14] This is again supported by the study conducted in Nepal in 2021 showed that more than half (64.57%) have poor level, 28.35% had average level, and 7.14% had good level of knowledge regarding breast cancer screening.[15] Likewise, nearly half (45.6%) respondents demonstrated poor practice whereas more than half (54.4%) had good practice which is supported by study conducted in Nepal shows that (73.89%) participants reported performing breast self-examination on a monthly basis.[14] which is contrasted by study done in Ethiopia in 2025 showed (79.9%) reported poor practices of breast cancer screening.[16]

Present study showed no any association between level of awareness with selected socio-demographic variables except in educational level (0.039). This study is opposed by study conducted in Lalitpur, Nepal in 2021 showed that there is no any association between level of awareness and socio-demographic variables at p-value ≤ 0.05.[7] Recent study shows there was no any association between level of practice with selected socio-demographic variables.

Conclusion

Based on the findings, it can be concluded that most respondents were in the age group of 30–40 years and had attained a secondary level of education. All participants were from Bagmati Province, and most of them followed Hindu religion. A significant proportion of respondents were aware of the meaning of breast cancer screening. In terms of awareness, most participants demonstrated a moderate level, while the overall practice level was found to be good compared to mean value. Thus this shows continuous prevention strategies to make people aware of breast cancer and its associated factors whereas early detection can reduce mortality by enabling timely treatment.

Conflict of interest: None

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References

1. Akram M, Iqbal M, Daniyal M, Khan AU. Awareness and current knowledge of breast cancer. Biol Res. 2017;50:33. URL
2. BP Koirala Memorial Cancer Hospital. Annual report 2024.
3. Abd Rabo RA, Belal GA, Abd-Alaniz A. Women's Knowledge, Beliefs, and Practices Regarding the Screening of Breast Cancer. Health. 2020;12(4):456-62.
4. American Cancer Society. ACS breast cancer screening guidelines [Internet]. www.cancer.org. 2023. URL
5. Shah T, Pokharel N, Shah S, Rai M. Breast and Cervical Cancer Risk Factors and Screening Awareness Among Nurses Working in Government Sectors in Eastern Region of Nepal. J Nepal Health Res Counc. 2010;8(2):78-84. LINK
6. Maitra IK, Nag S, Bandyopadhyay SK. Technique for Preprocessing of Digital Mammogram. Comput Methods Programs Biomed. 2012;107(2):175-88. LINK
7. Maharjan RK, Panthee B, Awale S. Awareness, Attitude and Practices Regarding Breast Cancer Screening among Community Women. JNMA J Nepal Med Assoc. 2021;59(235):300-5. DOI
8. Chea B, Kong S, Thim S, Ban N, Churn R, Venn V, et al. Knowledge, attitudes, and practices of antimicrobial use and resistance among village animal health workers and veterinary drug retailers in Cambodia. Open J Anim Sci. 2022;13(1):98-113. DOI
9. Sreegiri S, Madhavi B, Murthy P. Breast Cancer and Its Screening Awareness among Rural and Urban Women of Visakhapatnam. J Evid Based Med Healthc. 2020;7(45):2658-63.
10. Ngan TT, Jenkins C, Minh HV, Donnelly M, O'Neill C. Breast cancer screening practices among Vietnamese women and factors associated with clinical breast examination uptake. PLoS One. 2022;17(5):e0269228. DOI
11. Sharma S. A Descriptive Study to Assess Knowledge Regarding Breast Cancer Screening among Reproductive Age Women of Bharatpur-12, Chitwan. J Balkumari Coll. 2023;12(1):40-7. DOI
12. Thi Hang N, Van Viet T, Thu Huong TT, Thi Hoa D, Thanh Tung L. Correlation between Awareness of Breast Cancer and Breast Health Awareness among Rural Women: A Cross-Sectional Study. Asian Pacific Journal of Cancer Care. 2025 Aug 23;10(3):741–7. DOI
13. Kinteh B, Kinteh SLS, Jammeh A, Touray E, Barrow A. Breast Cancer Screening: Knowledge, Attitudes, and Practices among Female University Students in The Gambia. Biomed Res Int. 2023 Nov 30;2023:9239431. DOI
14. Pradhan S, Srinivas Bishoyi, Ghosh S, Manjunatha VK, Rathore SK, Sahoo MK, et al. Assessment of Knowledge, Attitudes, and Screening Practices for Breast Cancer Among Women in Odisha: A Community-Based Study. Clinical Epidemiology and Global Health. 2025 Sep 1;102171–1. DOI
15. Emagneneh, T., Daniel, T., Nega, A.T. et al. Knowledge, attitudes, and practices regarding breast cancer screening and associated factors among female undergraduate students at Bonga University, Ethiopia. Sci Rep. 2025 Aug 27;15(1):31638. PubMed