

Knowledge Regarding Breast Cancer among Female Community Health Volunteers of Gorkha District

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ABSTRACT

Background: Breast cancer is the most common cancer in women. The disease's burden is particularly acute in developing nations due to both high incidence and mortality rates, and a projected increase in cases is expected due to aging populations and lifestyle factors.

Method: Research study on “Knowledge regarding Breast Cancer Among Female Community Health Volunteers of Gorkha district” is carried out to identify the knowledge on breast cancer. To understand and recognize the key aspects related to breast cancer, including its risk factors, signs, symptoms, preventive measures, and available treatments. Hundred female community health volunteers working in Gorkha municipality and Sahid Laxman rural municipality were selected as study sample by using non probability purposive sampling technique. Data was collected by using structured questionnaire and data was analyzed by using descriptive and inferential statistics.

Result: Findings of the study revealed that, 35.0% of respondents were in the age group of 40-49. Similarly, 34% of respondents were in age group of 50-59. Likewise, 27% respondents were in age group of 30-39 while few (4.0%) were in 20-29. Regarding marital status, 97.0% of the respondents were married and few (2.0%) of respondents were widow and 1.0% unmarried respectively. Concerning education status, more than half (54.0%) of the respondents had primary education and few 2.0% had bachelor and above. Regarding religion, most (89.0%) were Hindu, and only 1% was Christian. Findings of study revealed that two third of the respondents (67%) had poor level of knowledge, 17% had good level of knowledge and 16% had moderate level of knowledge regarding breast cancer.

Conclusion: Based on the findings of the study it is concluded that, female community health volunteer had poor level of knowledge regarding breast cancer. So, there is a need of training and education regarding breast cancer for female community health volunteer as they are actively engaged within their communities for awareness creation and health promotional activities.

Key words: breast cancer; female community health volunteer; knowledge.

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INTRODUCTION

National cancer institute defines “Cancer as a disease in which some of the body’s cells grow uncontrollably and spread to other parts of the body.¹ Breast cancer rank as 1st most common cancer among female with estimated 2,296,840 new cases

and 666,103 mortality reported in 2022.² In Nepal as reported by GLOBOCAN 2022, breast cancer is 2nd cancer in both sexes and most common cancer in females which is accounting for 2255 new cases and 1149 death across all age.^{2,3,4} Female Community Health Volunteers (FCHVs) are the backbone of

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frontline healthcare in Nepal. As trusted members of their communities, they help connect families with healthcare workers and nearby health facilities, making healthcare more accessible to those who need it most.^{5,6} WHO and Government of Nepal are implementing various policies and initiatives for the prevention of breast cancer. They have initiated 3 pillars to achieve the target: Health promotion for early detection, timely diagnosis and comprehensive breast cancer management to reduce the global breast cancer mortality by 2.5% per year.⁷

A study was carried out with Female Community Health Volunteers (FCHVs) from all 20 wards of Dharan sub-metropolitan city. Of the 107 FCHVs, 95 participated, majority (86.3%) had a strong understanding of breast self-examination (BSE), only 22.2% had actually practiced it. The study found no significant link between the knowledge and practice of BSE. Despite their strong knowledge, FCHVs were not regularly practicing BSE, highlighting the need for more training to help improve their habits.⁸ A study was conducted with 145 Female Community Health Volunteers (FCHVs) in Pokhara Metropolitan, Gandaki province, Nepal, using a pre-test and post-test design. Before the intervention, about 67.6% had low awareness about breast self-examination (BSE), and only 1.4% had a good understanding. After the intervention, 68.3% reached an adequate level of awareness. The average awareness score after the intervention (23.87) was much higher than before (12.97).⁹ While numerous studies have explored different aspects of breast cancer still, there is notable gap in research focusing on specific group, female community health volunteer. As FCHV are the key drivers to implement frontline health service. Assessing their level of knowledge would be baseline information for program planning related to breast cancer prevention.

METHODS

A Cross sectional study was carried out to assess knowledge regarding breast cancer among female community health volunteers of Gorkha district. The study population was female community health

volunteers working in the Gorkha municipality and Sahid Laxman rural municipality of the Gorkha District. Non probability purposive sampling technique was used to select the sample. The total sample size was 100 FCHVs. A questionnaire was prepared by reviewing relevant literature and seeking opinion from subject expert to assess the level of knowledge. Knowledge level was measured through self-administered structured Questionnaire. Total questions were 53 and each correct answer was scored 1 and 0 score was given for wrong answer. The level of knowledge was classified based on Bloom's cut off point into three categories.¹⁰ Good level (>80%), moderate level (60-79%) and poor level (≤ 59%). The validity of instrument was maintained by consulting with subject matter expert and reliability was maintained by pretesting 10% of estimated population in the same setting. Those samples were excluded from the main study. Instrument was prepared and used in Nepali language. Data was collected on 15th April to 2nd May 2025 after getting permission from respective municipality. Ethical permission was taken from BP Koirala Memorial Cancer Hospital Institutional Review Committee. Informed consent was taken from the respondents before data collection procedure.

RESULTS

There were 100 respondents. Regarding the age, mean age was 44.84±9.036. Thirty Five percent of respondents were in the age group of 40-49. Similarly, 34% of respondents were in age group of 50-59. Likewise, 27% respondents were in age group of 30-39 while few (4.0%) were in 20-29. Concerning marital status, 97.0% of the respondents were married, few (2.0%) of respondents were Widow and 1.0% unmarried respectively.

In terms of work experience, education status, religion, history of breast cancer in family member of the respondents, 23% have experience of 6-10 years while 19% have experience of 1-5 years. Similarly, 14% of respondents have experience of 16-20 years and 13% have experience of 11-15 years. Likewise, 7% of respondents have experience of 21-25 years as

well 31-35 years while 5% have experience of 26-30 years. In conclusion 12% respondents were very senior and have experience of more than 35 years. Concerning education status, more than half (54.0%) of the respondents had primary education, 40% had secondary education, very few 2.0% had bachelor and above, remaining 4% were just could read and write with no formal education. Regarding religion, most (89.0%) were Hindu and most (98.0%) of the respondents had no history of breast cancer in family.

Table 1. Respondents' knowledge on meaning and risk factors of breast cancer. (n=100)	
Variables	Correct Response
	Frequency (%)
Meaning of Breast Cancer: Abnormal lump in the breast, which can be treated, if early detected	49(49)
Non -Modifiable Risk Factors	
Increasing age	20(20)
Early menarche	8(8)
Late menopause	9(9)
Family history of breast cancer	67(67)
Gene Mutation	23(23)
Modifiable Risk Factors	
Obesity	51(51)
Physical inactivity	53(53)
Alcohol consumption	65(65)
Tobacoo consumption	77(77)
Use of hormonal replacement therapy	84(84)
Exposure to carcinogenesis	34(34)
Nully parity	37(37)
Not breast feeding to baby	76(76)
Non-cancerous breast disease	98(98)
Long term use of hormonal medicine	60(60)

Table 1 shows that, less than half (49.0%) of respondents answered in correct response on meaning of breast cancer i.e., abnormal breast lump in the breast which can be treated if detected earlier. Concerning non-modifiable risk factor, 67% recognized family history of breast cancer as non-modifiable risk factor. Only, 23% respondents answered gene mutation is

a risk factor of breast cancer, increasing age as risk factor answered by 20%, late menopause answered by 9% and early menarche was identified by 8% of the respondents. Table further revealed the knowledge on modifiable risk factors. Regarding modifiable risk factor 98% recognized non-cancerous breast disease as risk factor, 84% respondents identified use of hormonal replacement therapy as risk factor. Similarly, 77% recognized tobacco consumption as risk factor while 65% recognized alcohol consumption. So, like, 60% recognized long term use of hormonal medicine while more than half respondents were aware about other risk factor like physical inactivity 53% and obesity 51%. Similarly, 34% recognized exposure to carcinogens while 37% recognized Nully parity, as well 76% recognized lack of breast feeding to child as modifiable risk factor of breast cancer (Table 1).

Table 2 shows respondents' knowledge on sign and symptoms of breast cancer. Regarding sign of breast cancer, mostly (99%) respondents identified breast lump as major sign. Similarly, 79% respondents recognized nipple retraction as sign of breast cancer whereas 75% recognized unusual discharge from breast, 70% recognized breast asymmetry as sign of breast cancer. More than half respondents were aware about other sign like changes in shape 52%, while least respondents were aware of dimpling of the breast skin 33%. Concerning symptoms, mostly 97% respondents identified breast pain as major symptom. Similarly, 80% recognized ulceration of breast skin and feeling of hotness over the breast whereas 62% recognized peeling of skin around breast. Least respondents were aware about other symptoms like thickness of breast skin 27%, swelling of lymph nodes 26% and tenderness over breast 20%. Table further shows respondents knowledge on screening method. Regarding screening method, mostly (97%) respondents identified clinical breast examination as major screening method. Similarly, 87% respondents recognized breast self-examination as screening method whereas least respondents were aware about ultrasound 32%, mammogram 31% respectively. Regarding

knowledge on treatment modalities, most of the (96%) respondents identified surgery as major treatment modality. Similarly, 83% of respondents recognized chemotherapy as treatment modalities whereas least respondents were aware about other treatment modalities i.e., radiation therapy 40%, hormonal therapy 24%, immunotherapy 19% (Table 2).

Table 2. Respondents' knowledge on sign and symptoms, screening methods and treatment modalities. (n=100)

Variables	Correct response
	Frequency (%)
Sign of breast cancer	
Breast Lump	99(99)
Changes in Shape of breast	52(52)
Breast Asymmetry	70(70)
Nipple Retraction	79(79)
Dimpling of the breast skin	33(33)
Unusual discharge from breast	75(75)
Symptoms of breast cancer	
Tenderness over breast	20(20)
Feeling hotness over the breast	80(80)
Thickness of breast skin	27(27)
Peeling of skin around the breast	62(62)
Swelling of lymph nodes around the breast	26(26)
Ulceration of breast skin	80(80)
Screening method	
Breast Self examination	87(87)
Clinical breast examination	97(97)
Mamogram	31(31)
Ultrasound	32(32)
Treatment modality	
Surgery	96(96)
Chemotherapy	83(83)
Radiation therapy	40(40)
Hormonal Therapy	24(24)
Immunotherapy	19(19)

Table 3 shows respondents' knowledge on preventive measures to prevent breast cancer. Regarding preventive measure, mostly (96%) respondents identified noticing change to breast as major

preventive measures to prevent breast cancer. Similarly, 83% respondents recognized limiting use of hormonal medication as preventive measures where as 79% respondents identified breast feeding to child. So, like, 78% respondents recognized avoidance of alcohol and tobacco consumption, 72% respondents recognized healthy weight maintenance, 50% respondents were aware about avoid exposure to radiation and least respondents 32% were aware about recommended age for mammogram (Table 3).

Table 3. Respondents' knowledge on preventive measures of breast cancer. (n=100)

Variables	Correct response
	Frequency (%)
Preventive measures of breast cancer	
Healthy weight maintenance	72(72)
Avoidance of alcohol and tobacco consumption	78(78)
Avoid exposure to radiation	50(50)
Breast feeding to child	79(79)
Limiting use of hormonal medication	83(83)
Immediate health seeking if noticing change in breast	96(96)
Recommended age for mammogram (40 years)	32(32)

Table 4 shows the level of knowledge on breast cancer. Out of 100 respondents, majority (67%) had poor level of knowledge, 17% had good level of knowledge and 16% had moderate level of knowledge.

Table 4. Respondents' level of knowledge on breast cancer. (n=100)

Level of knowledge	Frequency (%)
Poor Level	67(67)
Moderate Level	16(16)
Good Level	17(17)

Table 5 Shows that there exist no significant association between level of knowledge with age, experience, education and history of breast cancer patient within the family.

Table 5. Association between level of knowledge with selected socio-demographic variables.					
Variables	Level of Awareness			Chi-Square (χ^2)	p-value
	Poor (%)	Moderate (%)	Good (%)		
Age group					
20-29	100%	0.00%	0.00%	8.541	0.201
30-39	66.70%	14.80%	18.50%		
40-49	68.60%	8.60%	22.90%		
50-59	61.81%	21.30%	11.80%		
Work experience					
1-5	68.50%	15.80%	15.80%	28.48	0.12
6-10	82.60%	13.00%	4.30%		
11-15	53.80%	7%	38.50%		
16-20	64.50%	28.60%	7.10%		
21-25	57.11%	14.30%	28.64%		
26-30	20%	0.00%	80%		
31-35	57.10%	42.90%	0.00%		
>35	50%	41.70%	8.30%		
Educational status					
Illiterate	25%	25%	50%	7.885	0.247
Primary education	61.10%	20.40%	18.50%		
Secondary education	67.50%	20.00%	12.50%		
Bachelor and above	0.00%	0.00%	100%		
Family history of breast cancer					
Yes	0.00%	50%	50%	1.397	0.497
No	63.3%	19.40%	17.30%		

Note: *p-value* < 0.05 is considered significant.

DISCUSSION

This study aims to identify the knowledge of female community health volunteers on breast cancer. Findings of study revealed that less than half (49.0%) of respondents had knowledge on meaning of breast cancer. On the contrary, study conducted in Pokhara, in 2022 which reveals that, 93.8 respondents had knowledge on meaning of breast lump as the thickened abnormal mass in the breast.⁹ Concerning non-modifiable risk factor, this study findings reported that, two third of the respondents (67%) recognized family history of breast cancer as non-modifiable risk factor. Similarly, gene mutation by 23% respondents, increasing age 20%, late menopause 9% and early menarche was identified by 8% respondents.

Concerning to modifiable risk factor of breast cancer, this study finding revealed that majority (98%) recognized non-cancerous breast disease as risk factor, 84% respondents identified use of hormonal

replacement therapy as risk factor. Similarly, majority of respondents 77% recognized tobacco consumption as risk factor while 65% recognized alcohol consumption as modifiable risk factor of breast cancer. So, like, 60% recognized long term use of hormonal medicine whereas more than half respondents were aware about other risk factor like physical inactivity 53% and obesity 51%. Similarly, 34% recognized exposure to carcinogens while 37% recognized null parity, as well 76% recognized lack of breast feeding to child as modifiable risk factor of breast cancer. Study finding of female population from Bharatpur in 2023 reported that majority (82.9%) respondents answered that alcohol consumption is a risk factor and 82.1% answered smoking as a risk factors while only 40.3% answered having a first child at a late age is a risk factor for breast cancer. Likewise, more than half 54.4% respondents answered family history as a risk factor, more than half 52.5% answered increasing age while less than half 47.1% answered obesity as

risk factor of breast cancer.¹⁰ These findings further revealed the awareness level of general women population about breast cancer.

Finding of the study further revealed that mostly (99%) respondents identified breast lump as major sign. So, like, 79% respondents recognized nipple retraction as sign of breast cancer whereas 75% recognized unusual discharge from breast, 70% recognized breast asymmetry as sign of breast cancer. More than half respondents were aware about other signs like changes in shape 52%, while least respondents were aware of dimpling of the breast skin 33%. Concerning symptoms, mostly 97% respondents identified breast pain as major symptom. Likewise, 80% recognized ulceration of breast skin and feeling of hotness over the breast whereas 62% recognized peeling of skin around breast. Least respondents were aware about other symptoms like thickness of breast skin 27%, swelling of lymph nodes 26% and tenderness over breast 20%. The study findings from female population of Bharatpur in 2023 also had good level of awareness on sign and symptoms of breast cancer where 93.5% respondents 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%.⁴ Findings are similar with study conducted on FCHV in Pokhara in 2022 reported that majority (84.1%) respondents answered lump in breast as abnormal findings, 77.2% unusual discharge from nipples, 69.7% changes in shape and size of nipples. Likewise, 66.9% answered nipple inversion as abnormal findings and 64.8% changes in skin colour/softness of breast as abnormal sign of breast cancer.⁹ On the contrary, study finding of Pakistani female population in 2009 where 54.6% answered to breast lump, 44.7% identified breast pain as symptoms, 7% identified ulceration on breast, 4.5% identified bloody discharge from nipple, and 19.2% had no idea about symptoms of breast cancer.¹¹

Regarding screening method mostly, 97% respondent identified clinical breast examination as major screening method. So, like, 87% respondent

recognized breast self examination as screening method whereas least respondents were aware about ultrasound 32%, mammogram 31%. Study finding of female population from Bharatpur in 2023 reported 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.⁷ Likewise, findings from another study conducted by Sharma S. at Bharatpur in 2023 among general women population, majority (92%) respondents had knowledge about clinical-breast examination as a method of breast cancer screening, 80% respondents had heard about ultrasound as a test done for screening. Similarly, 72% had heard about breast self-examination as a procedure of screening and very few (26%) respondents had heard about mammogram.¹²

Regarding preventive measure mostly (96%) respondent identified noticing change to breast and seeking health advice as major preventive measures to prevent breast cancer. Similarly, 83% respondent recognized limiting use of hormonal medication as preventive measures where as 79% respondent identified breast feeding to child. So, like, 78% respondent recognized avoidance of alcohol and tobacco consumption, 72% respondent recognized healthy weight maintenance and least respondent were aware about avoid exposure to radiation 50%, least respondents 32% were aware about recommended age for mammogram. Findings are similar with the study by Nuridah N, Yodang Y conducted in Indonesia, nearly 70% of the RHCV's who have high level of the knowledge on preventive measure of breast cancer.¹³ Study findings of reproductive aged women from Bharatpur in 2023 reported that few respondents (28%) had heard the appropriate age for performing mammogram that is 40 years.¹²

The findings of the study further revealed aggregate level of knowledge was found to be poor on majority of FCHV. Out of 100 respondent's majority (67%) had poor level of knowledge, 17% had good level of knowledge and 16% had moderate level of knowledge. Study findings of Reproductive aged

women from Bharatpur in 2023, more than half of respondents 52% had poor level of knowledge, 44% respondents had moderate level of knowledge and 4% respondents had good level of knowledge regarding breast cancer screening.^{13,14} Study findings of female population from Bharatpur and Pokhara reported that more than half of the respondent has poor level of awareness on breast cancer.^{4,15} The findings of the study further revealed that association between knowledge of breast cancer and socio-demographic variables, which reveals the level of knowledge isn't significant with socio-demographic variables (work experience, educational status, history of breast cancer in family). This study is supported by the study conducted in Dharan in 2022 where there was no significant association was found between

the knowledge and practice of BSE with the selected demographic variables such as age, marital status, educational level.⁸

CONCLUSIONS

Based on the findings of the study it is concluded that, female community health volunteer had poor level of knowledge regarding breast cancer. So, there is a need of training and education regarding breast cancer for female community health volunteer as they are actively engaged within their communities and for effectively raising awareness about breast cancer prevention and screening.

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