KNOWLEDGE AND PRACTICE OF BREAST SELF EXAMINATION AMONG WOMEN OF REPRODUCTIVE AGE IN BUTWAL SUB METROPOLITAN CITY

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ABSTRACT

Background: Majority of breast cancer cases in developing countries are diagnosed in late stage. Breast cancer is the second most common cancer among females in Nepal and can be detected by Breast self-examination (BSE) in early stage of disease. This study aimed to assess the knowledge and practice of breast self-examination among women of reproductive age in Butwal Sub-Metropolitan city.

Methods: A quantitative descriptive cross-sectional study with 219 women of reproductive age residing in Butwal Sub-Metropolitan city was conducted between March and August 2016. The study samples were enrolled through the cluster random sampling design. Data was collected using an interviewer administered semi-structured questionnaire. Data was analyzed using SPSS ver. 16.Association was checked using the chi-square test.

Results: Of total, only 31.1% of respondents had ever heard about BSE. Only 19.2% women had ever practiced BSE. The study revealed that marital status, monthly household income and level of education were independent factors influencing the knowledge of BSE while performance of BSE was influenced by monthly household income, level of education and history of breast disease.

Conclusion: Knowledge and practice of BSE among women of reproductive age in Butwal sub metropolitan city was found poor and inadequate. This shows gap between knowledge and practice of BSE that might be reduced through implementation of community based awareness and skill development programs on BSE targeting the women of reproductive age group.

Key Words: *Breast cancer, Breast self-examination; Reproductive age*

INTRODUCTION

Worldwide, breast cancer is the topmost common cancer among the women[1] according to World Health Organization Global Health estimates 2013, it is estimated that in world over 508000 women died of breast cancer in 2011. The survival rate of breast cancer is lower in the less

developed nations as majority of the cases are diagnosed in the late stages.[1]In Australia, about 10-12% of patients might present with stage III, whereas in certain parts of Asia, such as China and India, the rates are up to 35-40%.[2]

Breast cancer is the second most common cancer among women of Nepal. Despite of remarkable development in the managing the disease, the incidence of breast cancer is further continuing due to changes in lifestyles of Nepalese women.[3]It is more common among younger, premenopausal women; most of the cases being diagnosed at an advanced stage – when the likelihood of successful treatment is very low.[3, 4]WHO recommends early detection as the cornerstone to improve breast cancer outcome and survival for breast cancer control.[1]

The three recommended screening methods for early detection of breast cancer are mammography, clinical breast examination (CBE) and breast self-examination (BSE).[5] BSE is an inexpensive and easy method that can be carried out by women themselves and doesnot demand hospital visits and specialized equipment and expertise as in mammography and CBE. Breast Self-Examination (BSE) is the easiest screening method that a woman can perform herself at home. BSE method involves women looking at and feeling each breast for possible lumps, distortions or swelling as an approach in detecting early stage breast cancer.[6]

Knowledge of breast cancer and its warning signs and skills of BSE can be life saving for women as they can be aware of any changes in their breast related to breast cancer and seek treatment on time. However, women over 40 years of age are recommended to undergo annual mammography screening along with CBE rather than BSE[7,8] A study from Pokhara showed that majority of the women were not aware about the recommended steps of BSE and presumably, it is ideal for women to examine and feel their breasts for its shape, size and consistency.[5] Similarly, a population based study conducted in eastern region of Nepal showed that women can perform BSE as a self screening method for breast cancer if they are given adequate knowledge and skills on BSE.[8]

The Sustainable Development Goal (SDG), goal-3 targets to improve the maternal health by reducing the global maternal mortality ratio below 70 per 100000 live births by 2030.[9]Numerous intervention has been designed and implemented by different nations to achieve the SDG target. However, the incidence of breast cancer is growing and being most common among the women of reproductive age-group in developing nations like Nepal.[10] It is imperative to understand what these women perceive about their needs. There is inadequate study on this line and the gaps can be well understood by conducting study focusing on knowledge and practice on BSE. In context, the present study was intended to assess the knowledge and practice of Breast Self-Examination among the women of reproductive age-groupofButwal Sub Metropolitan city.

MATERIALS AND METHODS

Study design and participants

This quantitative descriptive cross-sectional study was conducted in Butwal sub-metropolitan city, a city located in western Nepal. Two stage cluster random sampling was performed with sample size of 219 based on the following assumptions: prevalence = 6.9%, [11]sampling error (d) = 5%, 95% C.I., design effect = 2 and 10% non-response rate. In the first stage, three wards of

the sub-metropolitan were selected randomly from the list of 22 wards. In the second stage, subjects were selected randomly from the list of eligible subjects provided by ward chief of each ward and were interviewed in the community setting. Women of reproductive age-group, both married and unmarried were the eligible study population. Those being seriously ill, presence of hearing disability, mental incapacity or inability to provide answer were the exclusion criterion of the study.

Data collection and study variables

The study was conducted between March and August, 2016. The interviewer administered semi-structured questionnaire developed through literature review and considering the experts opinion was further pretested with 30 women in a similar area to validate the clarity of meaning and appropriate use of the language. Students of Bachelor of Public Health conducted face to face interview after receiving the orientation on study protocol and skills needed to ask personal questions. Eligible participants were approached and introduced about the purpose of study and asked whether they would like to participate. Written informed consent for the interview was obtained from each participant. The study protocols were reviewed and approved by the institutional review committee of Manmohan Memorial Institute of Health Sciences.

The interviewer administered semi-structured questionnaire was divided in four major domains consisting of questions about socio-demographic variables, awareness on breast cancer, knowledge of BSE and practice of BSE.

Operational definition

- Breast Self-Examination (BSE) is a general practice a woman can do herself at home that involves looking at and feeling each breast for possible lumps, distortions or swelling as a preventive measure for breast cancer detection.
- Respondents aware of BSE or who have ever heard about BSE are considered to be knowledgeable about it.
- Respondents who have ever performed BSE(Regularly and irregularly) are considered to have practice of BSE.
- Knowledge level :

Women having score 1-7 are considered to have inadequate knowledge on BSE.

Women having score 8-14 are considered to have adequate knowledge on BSE.

- Working women: Women involved in any kind of employment activities.

Statistical analysis

Data was analyzed using SPSS version 16.00. Mean score was calculated to know the average knowledge level and Chi-square test was used to check the associations between dependent and independent variables.

RESULTS

Socio-demographic Status

The mean age of respondents was 31.84(±9.19) years. Majority of them (75.3%) were married. There was domination of Brahmin/Chhetri consisting of 40.6 % and majority of the respondents (82.6%)were ascribed to Hindu religion. Of total, 32.4% of respondents had their monthly family income above 30 thousand. Majority of the respondents (37.9%) attended higher education i.e. above class 10. High proportion (44.3%) of the respondents were housewives. The socio demographic variables of the respondents are presented in the Table1.

Table 1.Sociodemographic characteristics of the Study Population

Variables	Frequency(n)	Percentage (%)
Age distribution		
15-30	112	51.1
31-49	107	48.9
Marital status		
Married	165	75.3
Divorced/Seperated	3	1.4
Widowed	1	0.5
Unmarried	50	22.8
Caste/Ethnicity		
Brahmin/Chhetri	89	40.6
Dalit	29	13.2
Janajati	74	33.8
Madhesi	15	6.8
Muslim	7	3.2
Others	5	2.3
Religion		
Hindu	181	82.6

Baudhdha	13	5.9
Islam	7	3.2
Christian	18	8.2
Others	0	0
Monthly family income(×1000)		
<10	26	11.9
10 to 20	67	30.6
20 to 30	55	25.1
>30	71	32.4
Educational status		
No Education	21	9.6
Basic Education	64	29.2
Secondary Education	51	23.3
Higher Education	83	37.9
Occupation		
Housewife	97	44.3
Student	41	18.7
Working women	81	37

Knowledge and Practice of BSE among Respondents

Respondents who were aware of BSE or have ever heard about BSE are considered to have knowledge about it. In total, only 68 (31.1%) respondents had ever heard about BSE and their Knowledge level was analyzed. There were total 8 questions to assess the knowledge level about BSE which included 14 correct options. Each correct response was given 1 mark and zero was given to wrong and uncertain responses. Thus, the knowledge score ranged from minimum 1 to maximum 14. Knowledge score was calculated for each of the 68 respondents. Total knowledge score for each of 68 respondents was calculated by adding total marks gained. Knowledge level of women was categorized as inadequate (≤7) and adequate (8-14). 54.4% of them showed inadequate knowledge about BSE.

Among 219 respondents, only 42 i.e. 19.2 % had ever performed BSE and among those, only 37 (88.1 % of 42)were performing it in current days. Respondents who didn't ever perform BSE gave the reasons like they didn't know about the examination (72.9%), they didn't know how to do it(7.3%), forgetfulness(2.3%) and they didn't feel it necessary(17.5%) for not ever performing it. Among current BSE practitioners, maximum number of respondent i.e.70.3% practice it occasionally and only 10.8% of respondents followed the recommended frequency of BSE performance i.e. monthly. Only 32.4 % of current practitioners followed all the standard steps during its practice while majority of them i.e.67.6% didn't follow it. Knowledge and Practice of BSE among respondents are shown in the Table 2.

Table 2.Knowledge and Practice of BSE among respondents

Variables	Frequency (n)	Percentage (%)
Knowledge		
Ever Heard BSE		
Yes	68	31.1
No	151	68.9
Knowledge Level		
Adequate	31	45.6
Inadequate	37	54.4
Practice		
Ever performed BSE		
Yes	42	19.2
No	177	80.8
Total	219	100
Current Practice		
Yes	37	88.1
No	5	11.9
Total	42	100

Frequency of performance		
Daily	3	8.1
Once a week	4	10.8
Monthly	4	10.8
Occasionally	26	70.3
Total	37	100
Follow of all steps during practice		
Yes	12	32.4
No	25	67.6
Total	37	100
Reasons for no practice		
Didn't know about this examination	129	72.9
Didn't know how to do it	13	7.3
Forgetfulness	4	2.3
Don't feel necessary	31	17.5
Total	177	100

Respondents' Knowledge and Practice of BSE and their socio-demographic factors

Respondents' knowledge of BSE was found to be significantly associated with their marital status, monthly household income and level of education.Association between respondents' knowledge and practice of BSE withtheir socio-demographic factors are presented in Table 3.

Table 3.Association between knowledge of BSE and socio-demographic factors

Variables	**Ever Heard BSE?**		**p value**
	No	**Yes**	
Age distribution(yrs)			
15-30	71(47%)	41(60.3%)	

31-49	80(53%)	27(39.7%)	0.08
Marital status			
Married	122(80.8%)	43(63.2%)	0.01*
Divorced/Seperated	2(1.3%)	1(1.5%)	
Widowed	0(0%)	1(1.5%)	
Unmarried	27(17.9%)	23(33.8%)	
Occupation			
Housewife	75(49.7%)	22(32.4%)	0.056
Student	25(16.6%)	16(23.5%)	
Working women	51(33.8%)	30(44.1%)	
Monthly Household Income(×1000)			
<10	23(15.2%)	3(4.4%)	0.00*
10 to 20	59(39.1%)	8(11.8%)	
20 to 30	36(23.8%)	19(27.9%)	
>30	33(21.9%)	38(55.9%)	
Education level			
No Education	21(13.9%)	0(0%)	0.00*
Basic Education	61(40.4%)	3(4.4%)	
Secondary Education	33(21.9%)	18(26.5%)	
Higher Education	36(23.8%)	47(69.1%)	
Family history of breast cancer			
No	103(95.4%)	60(88.2%)	0.13
Yes	5(4.6%)	8(11.8%)	
Personal history of breast problem			

No	141(93.4%)	61(89.7%)	0.41
Yes	10(6.6%)	7(10.3%)	

Note: *Statistically significant at 95% level of confidence.

BSE performance was found to be associated with their level of education, monthly household income and their personal history of any kind of breast disease. Association between respondents' practice of BSE with their socio-demographic factors are presented in Table 4.

Table 4.Association between practice of BSE and socio-demographic factors

Variables	**Ever performed BSE?**		**p value**
	No	**Yes**	
Age distribution(yrs)			
15-30	85(48%)	27(64.3%)	0.06
31-49	92(52%)	15(35.7%)	
Marital status			
Married	138(78%)	27(64.3%)	
Divorced/Seperated	2(1.1%)	1(2.4%)	0.17
Widowed	1(0.6%)	0(0%)	
Unmarried	36(20.3%)	14(33.3%)	
Occupation			
Housewife	82(46.3%)	15(35.7%)	
Student	33(18.6%)	8(19%)	0.39
Working women	62(35%)	19(45.2%)	
Monthly Household Income(×1000)			
<10	24(13.6%)	2(4.8%)	0.009*

10 to 20	60(33.9%)	7(16.7%)	
20 to 30	44(24.9%)	11(26.2%)	
>30	49(27.7%)	22(52.4%)	
Education level			
No Education	21(11.9%)	0(0%)	
Basic Education	61(34.5%)	3(7.1%)	0.00*
Secondary Education	40(22.6%)	11(26.2%)	
Higher Education	55(31.1%)	28(66.7%)	
Family history of breast cancer			
No	127(94.1%)	36(87.8%)	0.18
Yes	8(5.9%)	5(12.2%)	
Personal history of breast problem			
No	167(94.4%)	35(83.3%)	0.02*
Yes	10(5.6%)	7(16.7%)	

Note: *Statistically significant at 95% level of confidence.

DISCUSSION

Our study results demonstrate that only 31.1% of the respondents had ever heard about BSE among the sample population. Among them, higher proportion of the respondents (54.4%) knowledge level was inadequate. This finding is consistent with findings of a similar study from Pokhara valley[5].This finding may be explained as BSE is still new concept to women in Nepalese society as there is no adequate awareness at the ground and thus, most of them are totally unaware about it.

Regarding performance of BSE, only 19.2% (42 respondents) had ever performed BSE. 88% (37 respondents) of respondents ever performing BSE were performing BSE in the current days too. This finding is consistent with the study from Zaria.[12]Both studies show that women who used to perform BSE in past donot perform it currently. There are the several reasons that has been assessed by the study behind not practicing BSE. The major reasons were not knowing about the examination (72.9%), not knowing how to do it (7.3%), forgetfulness (2.3%) and feeling not necessary (17.5%). This finding is consistent with that of Iran.[13]These reasons might be addressed by increasing awareness on BSE,(importance,how to perform,when to perfom,correct

frequency etc) via different medias like mass communication (TV, Radio, Newspaper, Social Media), health camps,adult learning campaigns etc.Besides, ourstudyreported that most of the respondents (70.3%) currently performing BSE, perform it occasionally. This finding is similar (53%) with that of Hamedan city, Iran.[13] This shows poor compliance or poor regularity of BSE performance among respondents. The mean age of BSE initiation among the respondents was found to be 24.55±6.36 years in our study which contrasts with the study of Lagos[14] that revealed more than 50 percent of respondents started BSE before 19 years of age.

Present study showed that marital status is significantly associated with participants' knowledge of BSE. Married women are found to have knowledge of BSE more. This might be due to higher exposure and consultation of married women to health personnel during their prenatal and post natal periods. Our study did not show any association of marital status with BSE performance which contrasts with the study of a rural area of Kerala, India which revealed that being married was a significant predictor of screening practices among women.[15]A study among Korean women showed significant association between monthly household income with women's awareness on BSE[16] which resembles with the findings of our study. Both knowledge and performance of BSE are found higher in those having monthly household income higher than 30,000.It might be due to higher exposure of rich women to private hospitals better consultation can be received in comparison to government hospitals. Likewise level of education is seen to be associated with both knowledge and performance of BSE in present study. Both knowledge and practice of BSE are found increasing with increasing level of education. This finding resembles with study of Pokharavalley[5] and study of Northern Iran[17].A study among women of Qassim Region of Saudi Arabia showed that being aware of BSE was significantly associated with history of breast disease among the participants. In contrast, Our study showed significant association between history of any kind of breast disease with performance of BSE, however no association was observed with BSE knowledge. It might be because women who faced breast related problems in their past were concerned and practicing self examination at home without knowing its use in early detection of breast cancer.

CONCLUSION

This study revealed that very low percentage of women of reproductive age in the study site were aware of BSE and even more ironic is that more than 50% of them showed inadequate knowledge on it. There is noted gap between knowledge and performance of BSE among respondents. Monthly household income and level of education are found to be associated with both knowledge and performance of BSE whereas marital status is seen to affect Knowledge of BSE and history of breast disease is seen to be associated with BSE performance. Thus, we suggest effective implementation of community targeted awareness program and skill based training on BSE along withprograms focusing their educational increment as well as earning skills.

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REFERENCES

1. Breast cancer: prevention and control: World Health Organization; 2016 [20 march 2016]. Available from: http://www.who.int/cancer/detection/breastcancer/en/.
2. Murugappan R. More young Asian women are diagnosed with breast cancer,2016. Available from http://www.star2.com/health/wellness/2016/10/09/rise-in-breast-cancer/
3. Singh Y, Sayami P. Management of breast cancer in Nepal. *Journal of Nepal Medical Association*. 2009;48(175):252-7.
4. Acharya S, Jha A, Manandhar T. Clinical Profile of Patients Presenting with Breast Cancer in Nepal *Kathmandu Univ Med J*. 2012;10 (39):3-7.
5. Sathian B, Burugina S, Banerjee NI, Sreedharan J, De A, Roy B, et al. Awareness of Breast Cancer Warning Signs and Screening Methods among Female Residents of Pokhara Valley, Nepal. *Asian Pacific Journal of Cancer Prevention*. 2014;15(11):4723-4726.
6. Smith R, Cokkinides V, Eyre H, Society AC. American Cancer Society guidelines for the early detection of cancer, 2003. CA: *A Cancer Journal for Clinicians*. 2003;53(1):27-43.
7. Kanaga K, Nithiya J, Shatirah MN. Awareness of Breast Cancer and Screening Procedures Among Malaysian Women. *Asian Pacific Journal of Cancer Prevention*. 2011;12:1965-6197
8. Tara S, Agrawal C, Agrawal A. Validating breast Self-Examination as screening modalities for breast cancer in eastern region of Nepal: A population based study. *Kathmandu University Medical Journal.* 2008;6(1): 89-93
9. Sustainable Development Goals 2016-2030 National (Preliminary) Report. Government of Nepal National Planning Commission 2015.Available fromfile:///C:/Users/Dell/Downloads/SDG%20final%20report-nepal.pdf
10. Poudel K Huang Z, NeupanePR. Age specific incidence of five major cancers in Nepal, 2012. *Nepal J Epidemiol.* 2016 ; 6(2): 565–573
11. GanganeN , Ng N , Sebastián MS. Women's Knowledge, Attitudes, and Practices about Breast Cancer in a Rural District of Central *India.Asian Pac J Cancer Prev*.2015: 16 (16), 6863-6870.
12. Gwarzo U, Sabitu K, Idris S. Knowledge and practice of breast-Self-Examination among female undergraduate students of Ahmadu Bello University Zaria, Northwestern Nigeria. *Ann Afr Med.* 2009;8(1):55-8.
13. Akhtari-Zavare M, Ghanbari-Baghestan A, Latiff LA, Matinnia N, Hoseini M. Knowledge of Breast Cancer and Breast Self-Examination Practice among Iranian Women in Hamedan, Iran *Asian Pacific Journal of Cancer Prevention*. 2014;15(16):6531-4.

14. Irurhe NK, Olowoyeye OA, Arogundade RA, Bassey RB, Onajole AT. Knowledge, Attitude And Practice Of Breast Self-Examination Among Female Medical Students In The University Of Lagos. *The Internet Journal of Health.* 2009;12(1):1-6
15. Sreedevi A, Quereshi MA, Kurian B, Kamalamma L. Screening for Breast Cancer in a Low Middle Income Country: Predictors in a Rural Area of Kerala, *India Asian Pacific Journal of Cancer Prevention.* 2014;15(5):1919-1924
16. Yoo B, Choi K, Jung K, Jun J. Awareness and Practice of Breast Self-examination among Korean Women: Results from a Nationwide Survey *Asian Pacific J Cancer Prev.* 2012;13(1):123-125.
17. Tilaki KH, Auladi S. Awareness, Attitude, and Practice of Breast Cancer Screening Women, and the Associated Socio-Demographic Characteristics, in Northern Iran. *Iran J Cancer Prev*. 2015;8(4):3429.