Knowledge and attitude on breast self-examination among female students in secondary school of Kathmandu

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Abstract
Breast self-examination is the most important screening method for detection of breast changes and abnormalities. Female who performs breast self-examination are familiarized with appearance and feel of their breasts. So, knowledge on breast self-examination helps them to detect breast changes earlier to seek instant medical help. The objective of the study was to find out knowledge and attitude on breast self-examination among female students in secondary school of Kathmandu. A descriptive cross-sectional study design was used among 103 female students of Cosmic Int'l Academy, Kathmandu using non-probability purposive sampling technique. Data was collected using self-developed structured questionnaire adopting self-administered method. Data was processed through Statistical Package for Social Sciences version 25 and analyzed using descriptive as well as inferential statistics and represented in tabulated form. The findings of the study showed that adequate knowledge was found on meaning of breast self-examination (52.5%), appropriate age to start breast self-examination (55.3%), indication (61.2%) and correct direction for performing breast self-examination (60.2%). However, inadequate knowledge was found on purpose (30.1%), ideal time (29.1%) and appropriate position (15.5%) for breast self-examination. Hence, more than half (50.5%) of the female students had adequate knowledge on breast self-examination. Likewise, more than half (51.5%) of the female students had positive attitude towards breast self-examination. The study show that more than half of the female students have adequate knowledge as well as positive attitude towards breast self-examination. However, there is lack of knowledge on purpose, ideal time and appropriate position for performing breast self-examination. So, there is need of awareness and health education on breast self-examination to improve knowledge for successful breast self –examination practices.

Keywords: Attitude, Breast Self-Examination, Female Students, Knowledge

Introduction

Background of the Study

Breast cancer is the most commonly diagnosed cancer among women in the vast majority (140/184) of countries worldwide and the leading cause of cancer-related deaths among women. According to World Health organization (2020) about 2.3 million women were diagnosed with breast cancer and about 6, 85,000 women die from this. The mortality rates are higher in low and middle-income countries (LMICs), ranging from 40% to 60%. There is an increased incidence in LMICs due to the increase in risk factors such as obesity and adaptation of a Western diets, physical inactivity, delayed childbearing and/or having fewer children, earlier age at menarche and shorter duration of breastfeeding and are associated with economic development and urbanization [1].

Early detection and prompt treatment of breast cancer offers the greatest chance of survival. Screening methods like mammography, Clinical breast examination (CBE) and Breast self- examination (BSE) are used for the early detection of breast cancer. Unlike CBE and Mammography require hospital visit, specialized equipment and expertise whereas BSE is a simple, quick, non-invasive and inexpensive procedure that can be carried out by the females themselves. When BSE is performed correctly at right time, it helps in detecting breast cancer at the early stages ensuring a better prognosis when treated on time [2].

It is believed that BSE is an appropriate and effective method of ensuring early detection for breast cancer which could detect 40% of breast lesion among women. Women who carry out BSE on a regular basis have the possibility of easily recognizing both the appearance and feel of their breasts which often helps them to detect any change early. However, BSE practices are few and vary from country to country. Several reasons have been cited for not performing BSE, including lack of time, lack of confidence in the ability to perform the procedure correctly, fear of the possibility of detecting a lump, and embarrassment associated with breast manipulation [3, 4]. Previous studies also showed that the primary barriers for the poor practicing of BSE were forgetfulness, lack of time, ignorance, fear/anxiety, and low level of education [5].

Breast self-examination is very useful in low-income countries, where routine health checkup is uncommon and screening services like mammogram is expensive and scary. By the time 85% of patients visit specialized care the tumor is more than 5 cm, while BSE can detect the tumor at the size of 1cm, so Information, Education, and Communication (IEC) plays an important role in detecting abnormal breast conditions. BSE can detect tumors even the size of 1 cm, highlighting the importance of self-knowledge for early detection [6].

Conclusion

As, the trend of breast cancer is inclining in Nepal where most of the women did not have knowledge regarding BSE which is convenient method to prevent breast cancer with early identification of disease. It is therefore important to determine the level of knowledge regarding BSE, as well as the attitude and practice among female students in our community to recognize their acceptance, belief, and the magnitude of current practice

Objectives of the Study

General Objective

- To find out knowledge and attitude on breast self-examination among female students in secondary school of Kathmandu.

Specific Objectives

- To find out the level of knowledge on breast self-examination among female students in secondary school of Kathmandu.
- To identify attitude on breast self-examination among female students in secondary school of Kathmandu.
- To measure the association between level of knowledge on breast self- examination with socio-demographic variables.

Research Methodology

A descriptive cross sectional study design was used to find out the level of knowledge and attitude on breast self-examination among female students in Kathmandu. The study was conducted in Cosmic International Academy, Kathmandu among 103 female students studying at grade 11 and 12 Academy under management and science stream. Non-probability purposive sampling technique was used to select the study sample. Data was collected from 2079/10/02 to 2079/10/14.

A self-administered structured questionnaire was used to collect data from the respondents which were developed by researcher herself with the help of literature review and consultation with advisor. It consisted of three different parts:

PART I – It consisted of questions related to socio-demographic variables which include age, ethnicity, religion, educational stream, grade of respondent, family income and family history of breast cancer.

PART II- It consisted of questions related to knowledge of breast self-examination including its meaning, purpose, frequency, ideal age, time and period for performing BSE, advantage, technique and normal findings. The knowledge part consisted of 16 questions on BSE. There were multiple choice questions and multiple responses. The response of respondents' knowledge was scored as: the correct answer was scored with 1 point and incorrect with 0 point. Correct responses were summed up to get a total knowledge score for each participant.

PART III- It consisted of statements related to attitude on BSE. The attitude part consists of 13 items measured with the use of five-point Likert's scale. Each point had group of answers points, 5 points for strongly agree, 4 points for agree, 3 points for uncertain, 2 points for disagree and 1 point for strongly disagree.

Validity of this questionnaire was maintained by extensive review of literature, consulting with research advisor, subject expertise and research expert. To determine the reliability of the tool, a pretest was done in 10% of the female students at Kanjirowa National Higher Secondary School, Kathmandu.

Data Collection Procedure

For data collection, informed written and verbal consent was taken from Institutional Research Committee of MMIHS and Administrative Authority of Cosmic International Academy. About 103 female students studying in Cosmic International Academy was collected from the administration. Prior to data collection, written and verbal consent was taken from each female student with information about the purpose, nature of the study and their role in research.

Data was collected using self-administered structured questionnaire to gather knowledge and attitude on breast self-examination. Approximately, 20 minutes of time was provided to each respondent to fill up the questionnaire and it was checked for the completeness before leaving data collection area. After data collection, researcher thanked the respondents for their valuable time and co-operation.

Data was collected from 2079/10/02 to 2079/10/14 among 103 female students in Cosmic International Academy.

Ethical and administrative consideration

To maintain ethical soundness of the study, an approval letter was obtained from Institutional Research Board of MMIHS. An official letter from MMIHS was submitted to the concerned authority of Cosmic International Academy,

Kathmandu.
Objectives of the study were clearly explained to the respondents and informed consent was signed from each respondent before data collection. The respondents were informed about voluntary participation in the study and were provided full authority to withdraw from study at any time without any fear and justification. Anonymity of the information was maintained throughout the study by giving code number for each respondent and using data for study purpose only.

Data analysis procedure
After the collection of data, it was checked for completeness. The collected data was edited, organized and coded using Statistical Packages for Social Sciences, SPSS. Data was presented using descriptive statistics in the form of frequency, percentage and standard deviation.The association between level of knowledge and selected socio-demographic variables was analyzed by using chi-square test.

Results
Table 1 shows the socio-demographic characteristics of the respondents. The median age of the respondents was 17±2. Majority (73.8%) of the respondents were within the age of ≥ 17 years. More than half (65.0%) of the respondents were Brahmin/Chhetri. Most (84.4%) of the respondents followed Hinduism. Regarding educational stream, 59.2% of the respondents were from management stream. More than half (52.4%) of the respondents were studying in grade twelve. Almost half (48.6%) of the respondents had family income enough for 12 months and surplus. Only 3.9% had family history of breast cancer.

Table 1: Socio-Demographic Information of the Respondents n=103

Variables	Frequency	Percentage
Age		
<17 year	27	26.2
≥17 year	76	73.8
Median±IQR=17±2		
Ethnicity		
Brahmin/Chhetri	67	65.0
Janajati	30	29.1
Madhesi	4	3.9
Muslim	1	1.0
Dalit	1	1.0
Religion		
Hindu	87	84.4
Buddhist	12	11.7
Christian	3	2.9
Islam	1	1.0
Educational Stream		
Science	42	40.8
Management	61	59.2
Grade of Respondents		
Eleven	49	47.6
Twelve	54	52.4
Family Income		
Income enough for less than 6 months	33	32.0
Income enough for 6-12 months	20	19.4
Income enough for 12 months and surplus	50	48.6
Family history of breast cancer		
Yes	4	3.8
No	99	96.2

Table 2 shows that half (50.5%) of the respondents had adequate knowledge regarding BSE and 49.5% of the respondents had inadequate knowledge regarding BSE.

Table2: Level of Knowledge on Breast Self-Examination n=103

Level of Knowledge	Frequency	Percentage
Adequate Knowledge	52	50.5
Inadequate Knowledge	51	49.5

Table 3 reveals about respondents' level of attitude towards BSE where more than half (51.5%) of the respondents had positive attitude towards BSE whereas 48.5% of the respondents had negative attitude towards BSE.

Table 3: Level of Attitude towards Breast Self-Examination n=103

Level of attitude	Frequency	Percentage
Positive attitude	53	51.5
Negative attitude	50	48.5

Table 4 shows that there is no significant association of level of knowledge with socio-demographic variables.

Table 4: Association of Level of Knowledge on BSE with Socio-Demographic Variables n=103

	Level of Knowledge		
Socio-demographic Variables	**Inadequate No. (%)**	**Adequate No. (%)**	**P-value**
Age category			
<17 year	13(48.1)	14(51.9)	0.869
≥17 year	38(50.0)	38(50.0)	
Ethnicity			
Brahmin/Chhetri	34(50.7)	33(49.3)	0.733
Janajati, Dalit, Muslim	17(47.2)	19(52.8)	
Religion			
Hindu	44(50.6)	43(49.4)	0.616
Christian, Buddhist, Islam	7(43.8)	9(56.2)	
Educational Stream			
Science	20(47.6)	22(52.4)	0.750
Management	31(50.8)	30(49.2)	
Grade of Respondents			
Eleven	27(55.1)	22(44.9)	0.280
Twelve	24(44.4)	30(55.6)	
Family Income			
Income enough for less than 6 months	18(54.5)	15(45.5)	0.483
Income enough for 6-12months, Income enough for 12 months and surplus	33(47.1)	37(52.9)	
Family history of breast cancer			
Yes	0	4(100.0)	0.118#
No	51(51.5)	48(48.5)	

#Fischer's exact test

Discussion

The present study showed that more than half (52.5%) of respondents knew meaning of BSE which is inconsistent with the study done in Eritrea, East Africa by Meron *et al*., (2016)[3] where 67.7% of the respondents answered the correct meaning of breast self-examination. About 30.1% of the respondents of this study stated that BSE is done to detect possible changes in the breast. Dinegde *et al*., (2020)[7] conducted a study in Ababa University, Ethiopia which showed congruent finding where 29.7% of the respondents had same view regarding purpose of BSE.

Regarding ideal time to perform BSE for menstruating women, only 29.1% of the respondents responded correctly about ideal time to perform BSE for menstruating women which is within 5-7 days after menstruation. A study conducted at Andhra Pradesh, India showed consistent result i.e. only 23.0% of respondents responded correct timing to perform BSE (Karem *et al*., 2022) [8].

In current study, majority (68.9%) of the respondents mentioned that the frequency of breast self-examination is once a month. Meanwhile, this study contradicts with study conducted at Delta State, Nigeria where only 15.8% knew the accurate frequency of breast self-examination (Akpo *et al*., 2020) [9]. It might be due to difference in knowledge level of respondents as the present study is conducted among secondary school students from private school.

In present study, about 15.5% of the respondents responded correctly regarding appropriate position to perform BSE i.e. either standing/sitting in-front of mirror and lying on the bed. Nde *et al*., (2015) [10] conducted study in the South West region of Cameroon which showed congruent findings i.e. only 9.0% of the respondents knew about appropriate position to perform BSE.

This study showed that majority (63.1%) of respondents knew that breast inspection should be done by either standing or sitting in-front of mirror. This finding is supported by study findings conducted at Malaysia where majority (69.2%) of the respondents stated the breast inspection should be done in-front of mirror (Nimir *et al*., 2014) [11].

Regarding manual examination of breast, less than half (41.7%) of respondents answered using palm and middle three fingers to examine breast. The finding is consistent with the study done at Malaysia by Nimir *et al*., (2014) [11]. where only 35.5% of the respondents answered that breast should be palpated using palm and minimum three fingers. Another study conducted at Dhanusha, Nepal showed consistent findings concerning manual examination of breast where 40.0% of the respondents answered using palm and finger pads of three middle fingers (Prakash *et al*., 2022) [6].

In this study majority (60.2%) of the respondents answered that breast should be manually examined following circular direction from outer to inner in clockwise direction. Prakash *et al*., (2022) [6] found congruent findings in a study conducted in Dhanusha, Nepal where majority (66.7%) of the respondents stated that breast should be palpated in circular motion from outer edge in clockwise direction.

In current study, more than half (51.5%) of the respondents had positive attitude toward BSE. This study finding is congruent with the study conducted at Addis Ababa, Ethopia by Dinegde *et al*., (2020) [7] where half (50.6%) of the respondents had good attitude towards BSE. Also, the present findings is supported by the study conducted in Ethopia by Segni *et al*., (2016) [12] where 59.2% of the study participants were found to have a positive attitude towards BSE. A study conducted at Saudi Arabia found that majority (69.0%) of the respondents had positive attitude towards BSE (Paulsamy *et al*., 2021)[13]. It might be due to difference on perception level of respondents towards BSE. Based on study findings, it was found that more than half of the female students had adequate knowledge as well as positive attitude towards breast self-examination. Despite of having positive attitude, nearly half percent of the female students had inadequate knowledge regarding purpose, ideal time and correct technique of BSE. There is need to increase awareness about BSE among female students so as to improve its practice. The role of school health nurse would be crucial in offering health education and developing awareness packages on BSE. Public health awareness on importance of BSE should be intensified with

utilization of mass media.

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