

# Assessment of Knowledge, Attitude and Practice Regarding Breast Self-Examination Among Female Students in Debre Birhan University, North Shewa Ethiopia

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**Abstract:** Breast Self-Examination is a method where by women examines their breasts regularly to detect any abnormal swelling or lumps in order to seek prompt medical attention. Knowledge, attitude and practice towards breast self-examination is important among females for screening, early detection and diagnosis of breast Cancer. Objective of the Study was to determine knowledge, attitude and practice regarding breast self-examination among female students in Debre Birhan University, 2013. Institutional based cross sectional study design was used among 374 students. Simple random sampling was used. Data was entered onto Epi Data version 3.01, exported to and analyzed by SPSS version 20 statistical software. From the total of 367 participants 170 (46.3%) had heard about breast self-examination while most 197 (53.7%) had never heard about it. The commonest source of information about breast self-examination was media 118 (69.4%). Majority 273 (74.4%) of the respondents had poor knowledge, most 289 (78.7%) of the respondents had negative attitude and majority 281 (76.6%) of the respondents had poor practice of breast self-examination. Practices have associations with academic year, department and media exposure. Generally, in this study knowledge, attitude and practice of breast self-examination was unsatisfactory. Poor practice is an indication of poor knowledge and negative attitude. Programs should be strengthened about breast self-examination and its importance for early detection of breast cancer.

**Keywords:** Knowledge, Attitude, Practice, University Students, Breast Self-Examination

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## 1. Introduction

Breast self-examination is one of the vital screening techniques for early detection of breast lumps, most especially cancer of the breast. Medical advances have shown that one-third of all cancers are preventable and a further one third, if diagnosed sufficiently early, is potentially curable. This observation demands that cancer control should be of increasing priority in the health care programme of developing countries [1]. One potentially important strategy in reducing breast cancer mortality is the use of screening to achieve earlier detection of cancer [2]. Despite the advent of modern screening methods, more than 90% of cases of cancers of the breast are detected by women themselves using breast self-examination [3].

Worldwide breast cancer has been reported as the most

common cancer in women and the second leading cause of death [4]. The study conducted on knowledge, attitudes, regarding breast cancer detection practices found that out of 57 south Asian women, 12% of the participants practiced breast self-examination monthly. But majority (54%) of women has lack of knowledge about breast cancer [5]. in Terengganu approximately one-third of students reported performing breast self-examination monthly [6]. Studies in Nigeria indicate that the attitudes of breast self-examination, only 18.3% respondents care to seek for knowledge about breast self-examination, others 81.7% did not bother to know more on breast self-examination, Three hundred (42.8%) respondents believed that it is necessary to perform breast self-examination [7]. Breast self-examination is an important method to detect breast cancer early and little is known about

knowledge, attitude and practice of breast self-examination among Ethiopian University students.

## 2. Methodology

### 2.1. Study Area and Period

The study was conducted in DBU. DBU is one of the universities in Ethiopia which is found in Amhara regional state. Debre Birhan town is the capital city of North shoa zone, which is far 130Km from A. A and 695 k.m. from Bahirdar. The university was established in the year June 1999 E. C. currently there are 8889 students learning in the university within 2 colleges, 3 schools and 2 institution with their respective departments. Among 8889 students 2981 are regular female students. The study was conducted in DBU starting from January –June 2013.

### 2.2. Study Design

An institutional based cross sectional study design was conducted to assess knowledge, attitude and practice of BSE among DBU regular female students.

### 2.3. Source Population

The source population was all female students in Debre Birhan University.

### 2.4. Study Population

The study population was all female students in selected departments

### 2.5. Inclusion Criteria

Female students who were willing to participate.

### 2.6. Exclusion Criteria

Female students who faced vision problem and seriously ill female students.

### 2.7. Sample Size Determination and Sampling Technique

#### 2.7.1. Sample Size Determination

The sample size was determined by using a formula for estimating a single population proportion and assuming a confidence interval of 95% and marginal error of 5%. By taking 50%, the proportion was 0.5 or 50% and the sample size was calculated using the following formula;

$$n = z_a^2 pq / d^2$$

Where n=the minimum sample size required

Z=A standard score corresponding to 95% certainty and is thus equal to 1.96

P=an estimation of the prevalent rate for the student

q=1-0.5=0.5

d=the margin of error tolerated (5%) (0.05)

$n = (1.96)^2 \times (0.5) \times (0.5) / (0.05)^2 = 384$

But the total population was less than 10,000 as the

information obtained from DBU registrar office, so we used smaller sample size to calculate the actual size.

$$nf = n / (1 + n/N) = 384 / (1 + 384/2981) = 340$$

Non response rate (10%) of sample size was added. (Ten percent of sample size =  $340.179 \times 10\% = 34.0179$ ) and the total study unit (sample) required =  $340.179 + 34.0179 = 374$ .

#### 2.7.2. Sampling Technique

The type of sampling that we were used was simple random sampling technique. We used all faculties and we selected sample departments by simple random sampling from different years proportionally. By taking all female students who were included in the study from each department using proportional allocation of the sample size was made for each department by using the following formula.

$$n_i = N_i \times n / N$$

Where  $n_i$  = total sample size determined in each department

$N_i$  = total number of students in each department

$N$  = total number of DBU regular female students  $n$  = total sample size of the study population

### 2.8. Data Collection Method

We adopted self-administered questionnaire in English and translated to Amharic language and then back to English to check for its consistency. The questionnaire was used to collect information on the variables such as attitude, knowledge, practice and Socio-demographic characteristics. The data was collected from Debre Birhan University female students by distributing questionnaire to the selected sample and then data collectors collected questionnaire after being filled by respondents.

### 2.9. Study Variables

Dependent variable

Knowledge, attitude and practice about BSE.

Independent variable

Age, marital status, ethnicity, religion, department, academic year, media exposure

## 3. Operational Definition

Knowledge=information that a person get from experience and education, and a person is said to have good knowledge if she scored more than or equal to 75 percent of the expected answers, fair knowledge if she scored 50 to 75 percent of the expected answers, and poor knowledge if she scored less than 50 percent of the expected answers.

Attitude=a way of thinking, feeling about BSE, and a person is said to have positive attitude if she scored more than or equal to 70 percent of the expected answers and negative attitude if she scored less than 70 percent of the expected answers.

Practice=the action of performing BSE, and a person is said to have good practice if she scored more than or equal to

75 percent of the expected answers, fair practice if she scored 50 to 75 percent of the expected answers, and poor practice if she scored less than 50 percent of the expected answers.

### 3.1. Data Management and Analysis

The data was entered to Epi Data v. 3.0 & analyzed by SPSS V. 20 then the result was interpreted and presented by using tables, bar graph, pie chart, and chi square test to determine the significance of the association.

### 3.2. Data Quality Assurance

To assure the validity and reliability of the questionnaire, each item of data collection instrument was being analyzed and made ready prior to data collection. During data collection time continuous ongoing monitoring, supervision and random cross checking was carried out by principal investigator for being sure of the completeness of each questionnaire. Finally the completeness of the questionnaires was double checked before data used.

### 3.3. Ethical Consideration

The proposal was submitted for ethical review committee of the faculty, and then principal investigators were obtained permission from college of medicine and health science before the process of data collection. The purpose of the study was briefly explained for the respondents and verbal informed consent was obtained from the respondents and explained that the confidentiality of the information collected was kept anonymous.

## 4. Result

### 4.1. Socio-demographic Characteristics

In the analysis of KAP towards breast self-examination in DBU regular female students from 374 respondents, the respondent rate was 367 (98.1%) and the non-response rate was 7 (1.9%). The majority of the respondents 249 (67.8%) were in the age group of 20-24 years and the mean and modal age was 21 and 20 years respectively. Most of the respondents 276 (75.2%) were orthodox Christian followers. From 367 participants the highest proportion of the respondents 308 (83.9%) were unmarried.

**Table 1.** Socio Demographics Characteristics of Regular Female Students in DBU, June 2013.

	Variable	Frequency	Percent (%)
age	15-19	72	19.6
	20-24	249	67.8
	25-29	46	12.6
	Amhara	186	50.7
Ethnicity	Tigre	90	24.5
	Oromo	41	11.2
	Others	50	13.6
	Orthodox	276	75.2
religion	Muslim	35	9.5
	Catholic	11	3.0
	Protestant	43	11.7
	Others	2	0.6

	Variable	Frequency	Percent (%)
Marital status	Married	55	15
	Unmarried	308	83.9
	Divorced	4	1.1
	Nursing	60	16.3
Department	Civil	146	39.8
	IT	30	8.2
	Chemistry	35	9.5
	Animal	10	2.7
year	Psychology	16	4.4
	Management	70	19.1
	1 <sup>st</sup>	135	36.8
	2 <sup>nd</sup>	99	27.0
	3 <sup>rd</sup>	114	31.1
	4 <sup>th</sup>	19	5.1

### 4.2. Assessment of Knowledge of BSE

Results regarding on knowledge of BSE showed that out of 367 participants most 197 (53.7%) had never heard about BSE while 170 (46.3%) had heard about it. The commonest source of information about BSE was media 118 (69.4%). Majority of the respondents 119 (70.0%) said that BSE is important to detect Breast cancer early and most 74 (43%) of the participants said that BSE should be started at the age of >19 years. on frequency of practicing BSE high proportion of the respondents 72 (42.4%) said that it should be done daily followed by 58 (34.1%) monthly. Majority 76 (41.2%) of the of study subject agree that BSE should be practiced immediately after menstrual period, 106 (62.4%) of the respondents said that it should be done in standing position and in front of the mirror.

**Table 2.** Knowledge of Regular Female Students in DBU, Ethiopia, June 2013.

	Variable	Frequency	Percent (%)
Heard about BSE	Yes	170	46.3
	No	197	53.7
Importance of BSE for early detection of Breast cancer	Yes	119	70.0
	No	41	24.1
	Don't know	10	5.9
Primarily beneficial by BSE	Females	113	66.5
	Males	9	5.3
	Family	16	9.4
	Community	32	18.8
Year of starting BSE	< 19 years	43	25.3
	19years	53	31.2
	>19 years	74	43.5
	Daily	72	42.4
Frequency of doing BSE	Weakly	31	18.2
	Monthly	58	34.1
	Yearly	9	5.3
	Before menstrual period	50	29.4
Time of doing BSE	During menstrual period	34	20
	Soon after menstrual period	70	41.2
	Others	16	9.4
Posture of doing BSE	Lying	56	32.9
	Standing	106	62.4
	Other	8	4.7
	In front of mirror	106	62.4
Place of doing BSE	In bed	38	22.3
	In the bath room	20	11.8
	Others	6	3.5

	Variable	Frequency	Percent (%)
Symptoms to look for during BSE	Lump	106	28.9
	Change in size of breast	62	16.9
	Nipple discharge	60	16.4
	Others	71	19.3
	Don't know	68	18.5

#### 4.3. Assessments of Attitude Towards BSE

From 170 (46.3%) participants, which were heard BSE, 92 (54.1%) had negative attitude while 78 (45.9%) had positive attitude towards BSE. students who have Interest to know more about BSE are 158 (92.9%), who have not are 12

(7.1%).

#### 4.4. Assessment of Practice of BSE

From 170, which were heard BSE, 99 (58.2%) were practiced BSE. Most of the respondents 44 (44.4%) started doing BSE at the age of > 19 years and majority of them 68 (68.7%) done BSE monthly. Forty three (43.4%) of those who did so examined their breast before menstruation and 75 (75.8) done BSE in front of mirror. The major barrier to do BSE was embarrassment 43 (43.4%). Most of the respondents 41 (41.4%) who practiced BSE look for lump while practicing BSE.

**Table 3.** Practice of DBU Regular Female Students in Ethiopia, June 2013.

	Variable	frequency	Percent (%)
Done BSE before	Yes	99	58.2
	No	71	41.8
Age of starting BSE	< 19 years	13	13.2
	19 years	42	42.4
	>19 years	44	44.4
Frequency of doing BSE	6 month	2	2
	Monthly	68	68.7
	Yearly	29	29.3
	Before menstrual period	43	43.4
Time of doing BSE	During menstrual period	16	16.2
	Soon after menstrual period	35	35.4
	Others	5	5
	Worry about breast cancer	39	39.4
Barriers faced to practice BSE	Embarrassment	43	43.4
	Unfavorable attitude	15	15.2
	Others	2	2
	Lump	41	41.4
Symptoms observed while doing BSE	Large size of the breast	35	35.4
	Pain	20	20.2
	Others	3	3

**Table 4.** Association of Practice with Socio-Demographic Characteristics and previous media exposure.

S. No.	Variables	Practice			DF	X <sup>2</sup>	p-value
		Yes (expected)	No (expected)	Total			
1	Age				2	15.023	0.0005
	15-19	32 (19)	40 (53)	72			
	20-24	55 (67)	194 (182)	249			
	25-29	12 (12)	34 (34)	46			
	Total	99	268	367			
2	Year				3	59.923	0.0
	First	23 (36)	112 (99)	135			
	Second	19 (27)	80 (72)	99			
	Third	39 (31)	75 (83)	114			
	Fourth	18 (5)	1 (14)	19			
	Total	99	268	367			
3	Department				6	112.64	0.0
	Nursing	45 (16)	15 (44)	60			
	Chemistry	16 (9)	19 (26)	35			
	IT	7 (8)	23 (22)	30			
	Management	5 (19)	65 (51)	70			
	Animal sc.	1 (3)	9 (7)	10			
	Civil eng.	18 (39)	128 (106)	146			
	Psychology	7 (5)	9 (12)	16			
4	Total	99	268	367			
	Heard of BSE				1	132.25	0.0
	Yes	99 (46)	71 (124)	170			
	No	0 (26)	197 (144)	197			
	Total	99	268	367			

=> DF=degree of freedom; x2=chi-square; significance level=0.05.

As we have seen from table five practice of BSE had association with age, academic year, and department, and hearing about BSE since p-value is less than 0.05 (significance level).

**Table 5.** Knowledge towards BSE and Department in DBU, June 2013.

S. No.	Categories	Frequency	Percent (%)
1	Psychology		
	Poor	11	68.8
	Fair	4	25
	Good	1	6.2
	Total	16	100
2	Chemistry		
	Poor	24	68.8
	Fair	8	22.9
	Good	3	8.3
	Total	35	100
3	Civil engineering		
	Poor	123	84.2
	Fair	14	9.6
	Good	9	6.2
	Total	146	100
4	Management		
	Poor	65	94.4
	Fair	3	4.3
	Good	1	1.3
	Total	69	100
5	IT		
	Poor	24	80
	Fair	5	16.7
	Good	1	3.3
	Total	30	100
6	Nursing		
	Poor	17	27.9
	Fair	14	22.9
	Good	30	49.2
	Total	61	100
7	Animal science		
	Poor	9	90
	Fair	1	10
	Good	0	0
	Total	10	100

The above table shows that the effect of department on knowledge of BSE. From the total department the student who follow nursing program had more 30 (49.2%) good knowledge than other department students. As we have seen academic year had effect on knowledge of BSE. Since fourth year students had more (83.3%) knowledge of BSE than other academic year students.

The finding shows that the effect of department towards BSE. From the total department the student who follow nursing program had more positive attitude (40.9%) than other department students.

**Table 6.** Attitudes towards BSE and Academic Year in DBU, June 2013.

S. No.	Categories	Frequency	Percent (%)
1	First year		
	Negative	106	77.4
	Positive	31	22.6
	Total	137	100
2	Second year		
	Negative	78	79.6

S. No.	Categories	Frequency	Percent (%)
3	Positive	20	20.4
	Total	98	100
	Third year		
	Negative	94	83.2
4	Positive	19	16.8
	Total	113	100
	Fourth year		
	Negative	11	57.9
	Positive	8	42.1
	Total	19	100

As we have seen from the above table academic year had effect on attitude of BSE. Since fourth year students had more 8 (42.1%) positive attitude of BSE than other academic year students.

**Table 7.** Practice of BSE and Department in DBU, June 2013.

S. No.	Categories	Frequency	Percent (%)
1	Psychology		
	Poor	4	50
	Fair	3	37.5
	Good	1	12.5
	Total	8	100
2	Chemistry		
	Poor	12	50
	Fair	10	41.7
	Good	2	8.3
	Total	24	100
3	Civil engineering		
	Poor	42	70
	Fair	12	20
	Good	6	10
	Total	60	100
4	Management		
	Poor	8	72.7
	Fair	2	18.2
	Good	1	9.1
	Total	11	100
5	IT		
	Poor	8	66.7
	Fair	4	33.3
	Good	0	0
	Total	12	100
6	Nursing		
	Poor	9	17.3
	Fair	18	34.6
	Good	25	48.1
	Total	52	100
7	Animal science		
	Poor	1	33.3
	Fair	1	33.3
	Good	1	33.4
	Total	3	100

The above table shows that the effect of department on practice of BSE. From the total department the student who follow nursing program had good practice 25 (48.1%) more than other department students. Academic year had effect on practice of BSE. Since fourth year students had good practice 8 (66.7%) of BSE more than other academic year students

## 5. Discussion

In this study majority 197 (53.7%) of the respondents had never heard while 170 (46.3%) of the respondents had ever heard about BSE. This finding was similar with slight difference in percentage with findings of the study done in Jeddah, Saudi Arabia where 60.4% of the respondents had never heard while 39.6% of the respondents ever heard about BSE [20]. This difference in percentage can be due to difference in sample size. But it is not consistent with findings reported from a study in Awka Anambra state, in Nigeria where 4.4% of the respondents had ever heard while 95.6% of the respondents had ever heard of BSE [1]. This discrepancy can be due to age difference in the study participants. With respect to knowledge of respondents about frequency and appropriate time to practice BSE, only 15.8% and 19% knew the correct frequency and timing respectively in this study. This finding agreed with the study done in Jeddah, Saudi Arabia where only 14.4% and 17% knew the correct frequency and timing respectively [20]. This can be due to the information gap on frequency and timing of BSE.

In this study the major source of information about BSE was electronic media 118 (32.2%) while the least source of information was family 12 (3.3%). Similar finding was reported with slight difference in percentage from study done in Awka Anambra state, of Nigeria where majority of the respondent's first source of information was electronic media (38.8%), whereas the least source of information (4.0%) was family [1]. This slight difference can be because of difference in distribution of electronic media and difference in family life discussion in both countries. On the assessment of knowledge of participants of this study about frequency of practicing BSE, 58 (15.8%) of the study participants said that BSE should be practiced monthly while 9 (2.5%) said yearly. This is not similar with findings reported from Port Hart Court, in Nigeria where most of the respondents (42.7%) said that BSE should be practiced monthly while (6.7%) said yearly [21]. This difference might be as a result of inadequate health education about BSE in this study area.

On the assessment of knowledge of respondents on symptoms to look for during BSE, among respondents who had heard of BSE most 106 (28.9%) said that one should look for presence of lump in the breast, 62 (16.9%) change in the size of the breast, 60 (16.4%) nipple discharge and 71 (19.3%) others during BSE. This is not similar with the study reported in Awka Anambra state in Nigeria where most 447 (63.8%) knew presence of lump in the breast, 272 (38.9%) changes in the size of the breast, 262 (37.4%) nipple discharge and 267 (38.1%) others during BSE [1]. This is can be due to insufficient health education on breast cancer in this study area and due to high concern of breast cancer in Nigeria. This research reveals that majority of the respondents had poor knowledge 273 (74.4%) followed by, fair 49 (13.4%) and good 45 (12.2%). This is not agreed with the research done in Addis Ababa University in 2010 in Ethiopia where over 90% of the respondents had good knowledge about BSE [21]. This can be due to the

information gap and low concern of BSE in DBU.

In this study majority 289 (78.7%) of the respondents had negative attitude while 78 (21.3%) had positive attitude towards BSE. This is not consistent with the study done in Jeddah, Saudi Arabia where 82.4% of the respondents had positive attitude and 17.6% had negative attitude towards BSE [20]. This might be due to poor consideration and awareness of the importance of BSE in this study area and population.

This study reveals that majority 268 (73%) of the respondents did not perform BSE whereas 99 (27%) of the respondents performed BSE. This is not consistent with the study done in Shiraz, Southern Iran, where 46.7% of the participants did not perform BSE but majority (53.3%) had performed BSE [18]. Also it is not agreed with the study done in Awka Anambra state, in Nigeria where majority (54.8%) of the respondents had done BSE [1]. This discrepancy might be as a result of insufficient health education on breast cancer in this study area and due to high concern of breast cancer in Nigeria and Southern Iran.

Among the study participants who had practiced BSE, 58 (16%) used the correct frequency. This is much lower than the study done in Awka Anambra state, in Nigeria where 115 (71.8%) of the respondents who were doing BSE did it once monthly (1) which is the correct and recommended frequency of BSE. This great difference might be resulted from high consideration and attention of BSE in Awka Anambra state, in Nigeria. On the assessment of barriers to practice BSE 39 (10.6%) of the respondents did not practiced BSE for fear of being positive for cancer. This is not agreed with the study done in Shiraz, Southern Iran, where 66 (22%) did not practice BSE for fear of being positive for cancer (19). This difference can be as a result of difference in sample size. From those studied samples 41 (11.1%) found lump when they examined their breast. This is not consistent with the study done in Shiraz, Southern Iran, where 9 (5.6%) found lump during BSE [18]. This discrepancy can be due to unknown reason. From the total population studied most 281 (76.6%) of the respondents had poor practice followed by fair 50 (13.6%) and good 36 (9.8%). This is not consistent with the study done in Addis Ababa University in 2010 in Ethiopia where only 27% had good practice [22]. This discrepancy can be due to the site where the study was conducted

## 6. Conclusion

Majority of the students had poor knowledge, negative attitude and poor practice regarding breast self-examination. Education on breast self-examination is needed to address the problem. Practices have associations with academic year, department and media exposure with p-value of 0.0 and also have association with age with p value of 0.0005.

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