

Assessment of Knowledge, Attitude and Practice of Breast Self-examination among Ambo University Undergraduate Regular Female Students; 2015

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Abstract
Background: - Screening for early detection and diagnosis of diseases and health conditions is an important public health principle**.** Breast self –examination (BSE) is a process whereby woman examines their breasts regularly to detect any abnormal swelling or lump in order to seek prompt medical attention. Hence the aim of this study was to assess knowledge, attitude and practice of breast self-examination (BSE) among regular undergraduate female students of Ambo University.**Method**: - Institutional based cross-sectional study design was carried out from February to June 2015 among 320 study participants. Simple random sampling method was used to select the study participants. Self administered pre-tested structured questionnaire were used to collect the data for the participants. Crude and adjusted odds ratios using logistic regression analysis were used to explore associations between different variables and breast self examination.**Result: -** Most of the respondents 206(67.5%) were heard information about breast self examination (BSE); of which 75(36.4%) get from campus though education, 65(31.5%) from mass media, 25(12.1%) from multiple source, 23(11.2%) from health worker and the rest 20(9.7%) get the information about BSE from their friends. Majority of the respondents have positive attitude towards BSE. Despite positive attitude towards BSE, its practice was low; 63(20.7%) of respondent were ever practiced, while 28(44.4%) were practiced monthly. The major reason of not practicing BSE was lack of knowledge how to perform BSE 67(27.6%) followed by do not had breast problem 49(20.2%).**Conclusion**:- BSE practice was low in this study. Having information on the importance of BSE was predictor of BSE practice. Therefore, it is important to give health information on BSE techniques, actual age at which BSE start, appropriate time when to perform and its role on breast cancer prevention for female students in higher educational institution**.**
Keywords: KAP of Breast self-examination, Ambo, Ethiopia.

Introduction

Background

Breast cancer becomes the major global health problem of both the developing and developed countries (1). Globally, about 25% million people are living with cancer (2).Cancer is the second leading cause of death in the world. More than 70% of all cancer deaths occurred in low and middle- income countries (1,2). Of all types of cancers, breast cancer is the most common cancer among women both in developing and developed countries (3). The burden of the disease is increasing and if no action is taken it might go beyond control (4).

Today, there is no population and woman around the world with a truly low risk of developing breast cancer. The great majority of the burden of BC is expected to fall in low and middle-income countries, where the resources to deal with the current situation, never mind future increases, are absent to a great degree (5). The widespread belief that the disease is rare in low-income regions such as Africa is a myth. Akarolo-Anthony and colleagues noted that the probability that a woman who lives to age 65 in Uganda would develop cancer is only 20% lower than that of her European contemporary (6). It is the leading cause death among women aged between 40 and 55 years (7).

Recent global cancer statistics indicated that breast cancer incidence is rising at a faster rate in populations of developing countries (8). Breast cancer is distinguished from other types of cancer by the fact that it occurs in visible organ and be detected and treated at an early stage (9). Prevention is the best option to tackle the rising epidemic of breast cancer. In this regard, screening, early detection and health awareness programs are corner-stones (10). Public awareness can play a vital role in its prevention, early diagnosis and treatment (11).

BSE is a cost-effective method of early detection of cancer of the breast especially in resource poor countries (10). Early detection and diagnosis can greatly increase chances for successful treatment and thus increasing awareness of the possible warning signs of the disease among the general public is a necessity (13). More than 90% of cases of breast cancer can be detected by women themselves, stressing the importance of breast self-examination (BSE) as the key breast cancer detection mechanism (14).

Early detection of breast cancer plays an important role in decreasing its morbidity mortality. Breast self- examination (BSE) is one of the screening methods for early detection of breast cancer and one of an intervention female can do by themselves, in private, in their own schedule by getting know how their breasts normally look and feel (15).

Breast self-examination is one of the three tests that American cancer society will recommends to help detection of the breast cancer in its earliest stage by regularly examining how their breast normally feel and report any breast changes promptly to their health care providers. A woman is more likely to find any changes that may have occurred. The best time to perform breast self-examination is about a week after a woman's menses ends, when her breast is not tender or swollen. However, women in developing countries do not perform breast self-examination for various reasons (16)

BSE benefits women in two ways: women become familiar with both the appearance and the feel of their breast and detect any changes in their breast as early as possible (15). The problem is that poor awareness of breast cancer symptoms has usually been associated with patient delay in seeking help resulting in reduced survival, more aggressive and fewer treatment options (17).

The total number of new cases of breast cancer diagnosed annually in the world exceeds one million in 2007 (19). The incidence of breast cancer varies greatly around the world, being lower in less developed countries than in the more developed countries. In the twelve world region, the annual age standard incidence rates per 100,000 women's are as follow in eastern Asia, 18%, south central Asia, 22% , sub Saharan Africa, 22%south Eastern Asia,26% north Africa and western Asia,28%, south and central America, 42%, Eastern Europe, 49% southern Europe, 56%, Northern Europe, 73%, Oceania, 74% western Europe, 78%, and in north America, 90% (20).

Therefore, Africa faces potential problem since the rate of breast cancer increases among African women due to they adopt western reproductive and dietary behaviors that have been shown to increase the risk of breast cancer (21). Breast self-examination is best performed after menses (day 5 to day 7 counting the 1st day of menses as a day one) because women themselves detect many breast cancer, priority is given to teaching all women how and when to examine their breast. It is estimated that only 25% to 30% of women perform breast self-examination (16).

Even women who perform breast self-examination may delay seeking medical attention because of fear, economic factors, and lack of education, reluctance to act if no pain is involved, psychological factors, inadequate knowledge about sign and symptoms of breast cancer, geographical isolation and lack of information might be possible reason for the delay of breast cancer detection. Sometimes breast cancer can affect 1 out of every 10 women in their life time. The disease is the 2nd leading cause of death among women. Early detection is the key to cure. A health history can crucial risk factors for breast cancer including client over age 50, women with personal or family history of breast cancer and women who have never had children or who gave birth to their first child after age 30 (17).

In Ethiopia Breast cancer prevention and controls measures were not this much prevalent; a study done at black lion Specialized Hospital Radiotherapy Center showed that breast cancer is the second most prevalent malignancy accounting for 27.8% of all cancer cases referred to the hospital (23).

Although BSE is a simple, quick and cost-free procedure, it appears that many women either perform it incorrectly or not at all. There is a need to know the awareness level and screening practice in country with wide socio-demographic status. Therefore this study will be to assess the level of awareness, attitude and practice of breast self-examination for breast cancer screening among undergraduate female students of Ambo University.

Methodology and Materials

Study design and population

Institutional based cross sectional study design was done from May to June 2015 among Ambo university regular undergraduate female students using quantitative research approach. A total of 320 regular Ambo University female students were participated in the study. The sample size was determined by using single population proportion formula by assuming that the prevalence of BSE practice among female in west Gojam was 37% and 95% level of significance and 5% margin of error (precision) the sample size was 291by considering 10% non response rate the final sample size was 320.

Study area

This study was conducted at Ambo University Main Campus which is one of the higher learning institutions found in Ethiopia. Ambo University Main Campus was located in Ambo, capital city of West Shaw zone, Oromo regional state, 114 kilometers away from Addis Ababa, and capital city of Ethiopia. The University has eight colleges and 36 departments. According to the statistics obtained from student's service center, it has total number of 9,888 regular undergraduate students. Of those numbers of students 1,547 were regular undergraduate female students. The University has one clinic which is providing health care service for the in school students

Data collection procedure

Self administered questionnaires was used to collect the data using structured, standardized and pre-tested questionnaire after it was prepared by reviewing prior studies and other related materials with some modification.

The pretest was done among 16 under graduate female regular students at Ambo University Guoder Campus. The questionnaire was prepared in English language and translated into Afan Oromo and back to English. The data collectors and supervisors were trained for two days. They approached participants by introducing themselves and collect information after explaining the purpose of the study by reading the study information sheet.

Data quality assurance

Data quality assurance was in place during questionnaire designing, data collection and data entry. The quantitative questionnaire was objective based, logically sequenced, non-leading and pretested. The collected data were checked for completeness, accuracy, clarity and consistency by the supervisor and principal investigator. Daily strict follow-up and checking of the data was done in order to manage any problem encountered. Timely feedback was given for the data collectors and the supervisor.

Data processing and analysis

Data were coded, entered and cleaned and analyzed by using SPSS version 20. The data were summarized in percentages, tables and graphs. Crude and adjusted odds ratios with their 95% confidence intervals (CIs) using logistic regression analysis were computed to identify factors associated with Breast self examination practices.

Operational Definition

- **Knowledgeable**: One is able to define BSE, when it is done, how often and list sign to look for.
- **Not knowledgeable:** One is unable to define BSE, when it is done and how often and does not know sign to look for
- **Positive attitude:** those who score above 50% of attitude questions.
- **Negative attitude:** those who score below 50% of attitude questions.
- **Practicing**: One is performing BSE every month**.**
- **No Practicing:-** One is not performing BSE every month
- **Breast self-examination: -** is a procedure performed by an individual to physically and visually examine herself for any change in the breast.
    - ✓ **Regular breast self-examination**:- when breast self-examination is performed each month at the same time after some day menstrual cycle.
    - ✓ **Clinical Breast Examination** (CBE) is when an experienced health worker (physician or nurses) examine breasts.

Ethical Consideration

The study was undertaken by obtaining ethical clearance from Ambo University, College Medicine and Health science department of public health, Ethical committee. An official letter from the College of Medicine and health science department of Public Health was written to Ambo University main campus to obtain permission to carry out the study. The aim, purpose, benefit and method of the study were clearly explained to the study participants. Written consent was sought from all study participants before the data collection.

RESULTS

A total of 305 undergraduate regular female students participated in the study; giving 95.3% response rate. Almost half (51.6%) of the respondents age were between 21-25 years; 46.6% between 16-20 years and 2.3% was >26 years. Majority of the respondents 174(57%) were Oromo, followed by Amhara 70(22.9%), Others 44(14.4%), Tigre 17(5.6%). Most of the respondents were orthodox 126(41.3%) and protestant 125(40.9%) in religion. Concerning their marital status; more than half 193(63.3%) of the respondents were single. Regarding their faculty about 75(24.6%) of the respondents were Natural and computational science, whereas School of Law has least respondents 10(3.3%). (Table 1)

Table 1. ***Socio-demographic characteristics of under graduate regular female students, in Ambo University Main Campus, Oromia region, Ethiopia, 2015 (n=305)***

Variable	Frequency	Percent (%)
Age		
16-20	142	46.6
21-25	156	51.1
>26	7	2.3
Place of residence		
Urban	159	52.1
Rural	146	47.9
Religion		
Orthodox	126	41.3
Protestant	125	40.9
Muslim	38	12.5
Catholic	6	2
Others*	10	3.3
Ethnicity		
Oromo	174	57
Amhara	70	22.9
Tigre	17	5.6
Others**	44	14.4
Marital status		
Single	193	63.3
Married	19	6.2
Living with friends	87	28.5
Others***	6	2
Educational status		
First year	164	53.8
Second year	101	33.1
Third year	84	27.5
Fourth	5	1.6
Fifth	1	0.3
Faculty of study participants		
Health science	68	22.3
Natural and computational	75	24.6
Agriculture and veterinary	48	15.7
School of law	10	3.3
Cooperation and development	28	9.2
Educational and professional	16	5.2
Business and economics	23	7.5
Social science and humanity	37	12.1

*Wakefata and Traditional believers, Gurage**, Divorced***

Knowledge about Breast Self-Examination

Two hundred six students (67.5%) have heard of BSE and 93(30.5%) were know the meaning of BSE, while 99 (32.5%) claimed that they have never heard of BSE. Regarding the source of information about BSE, majority of them 75(36.4%), got the information during their campus life through education, followed by mass media 65(31.5%), multiple source like newspaper, magazine 25(12.1%), health workers 23(7.6%), friends 20(9.7%). Majority of the respondents 187(61.3%) did not know as BSE can early detect the problem of breast.(Figure 1)

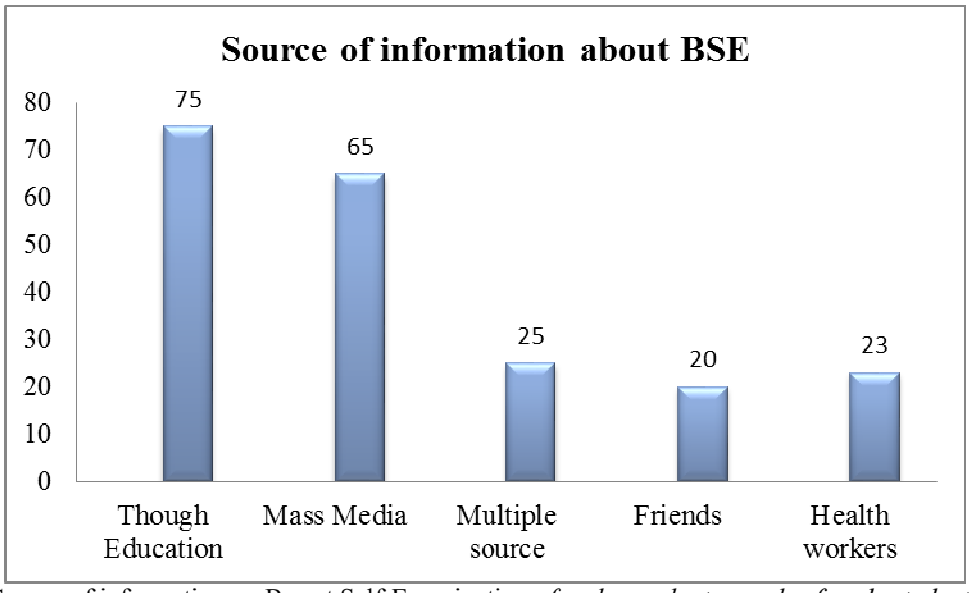

Figure1. Source of information on Breast Self-Examination *of undergraduate regular female students, in Ambo University Main Campus, Oromia region, Ethiopia, 2015*

Concerning the timing of performing breast self-examination (BSE); 58(19.1%) of the respondents reported that it was done monthly, 18(5.9%) were reported as done weekly whereas the least 4(1.3%) were reported as BSE should perform daily. Sixty five (21.4%) of the respondents have knowledge on the appropriate time for BSE while the rest 5(1.6%) did not know the right time to do BSE. Of those respondents who know the appropriate time for BSE; 30(46.2%) of them said that it was done one week after menstrual period, 16(24.6%) were said one week before menstrual period, 15 (23%) of them reported that it was done during menstrual period.(Figure 2)

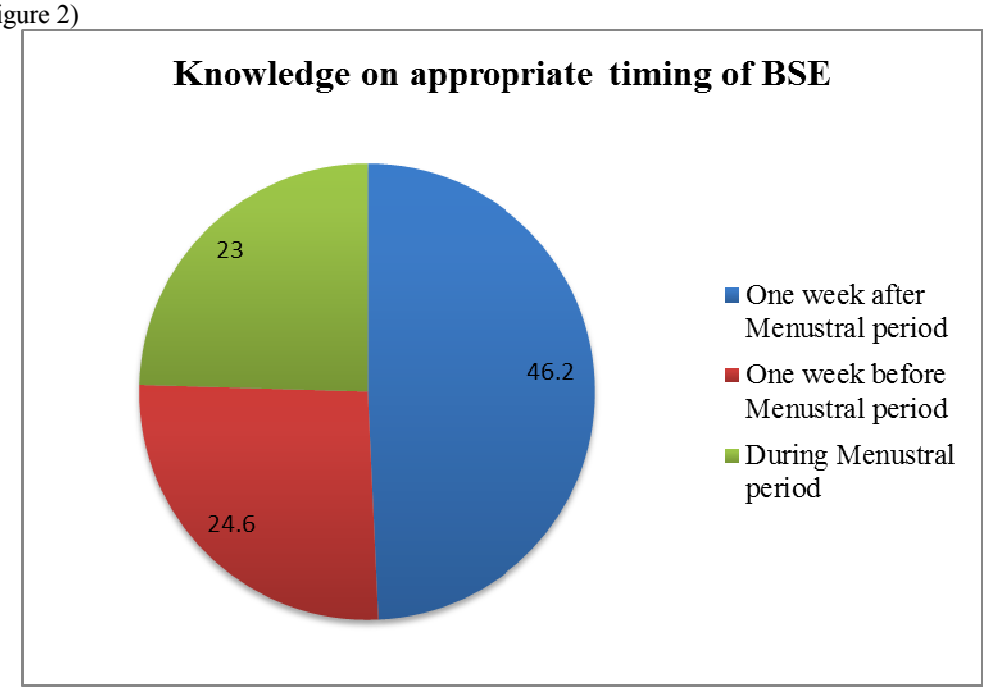

Figure2. *Knowledge of undergraduate regular female students of Ambo University on appropriate timing of performing breast self-examination, Oromia region, Ethiopia, 2015*

Attitude towards breast self-examination

Most 241(79%) of the participants believed that breast self-examination has benefit and majority 153(50.2%) were monthly performing breast self-examination was highly desirable. Majority of the participants 209(68.5%) reported that they would disclose if they explore any mass, lump, tenderness and any breast change in their breast during breast self-examination. Of whom most of them 140(45.9%) reported any abnormality they detect during breast self-examination to health worker.(Table 2)

Table2. ***Attitude of under graduate regular female students towards breast self-examination in Ambo University Main Campus, Oromia region, Ethiopia, 2015 (n=305)***

Variable	Frequency	Percent (%)
Breast self-examination has benefit		
Yes	241	79
No	64	20.9
Are you disclosing if you detect any mass in your breast during BSE		
Yes	209	68.5
No	96	31.5
Breast cancer is detectable through BSE		
Yes	223	73.1
No	82	26.9
Did you feel shame while perform BSE		
Yes	108	35.4
No	197	64.6

Majority of the participants 223(73.1%) agreed that breast self-examination was important for early detection of breast cancer.(Figure 3)

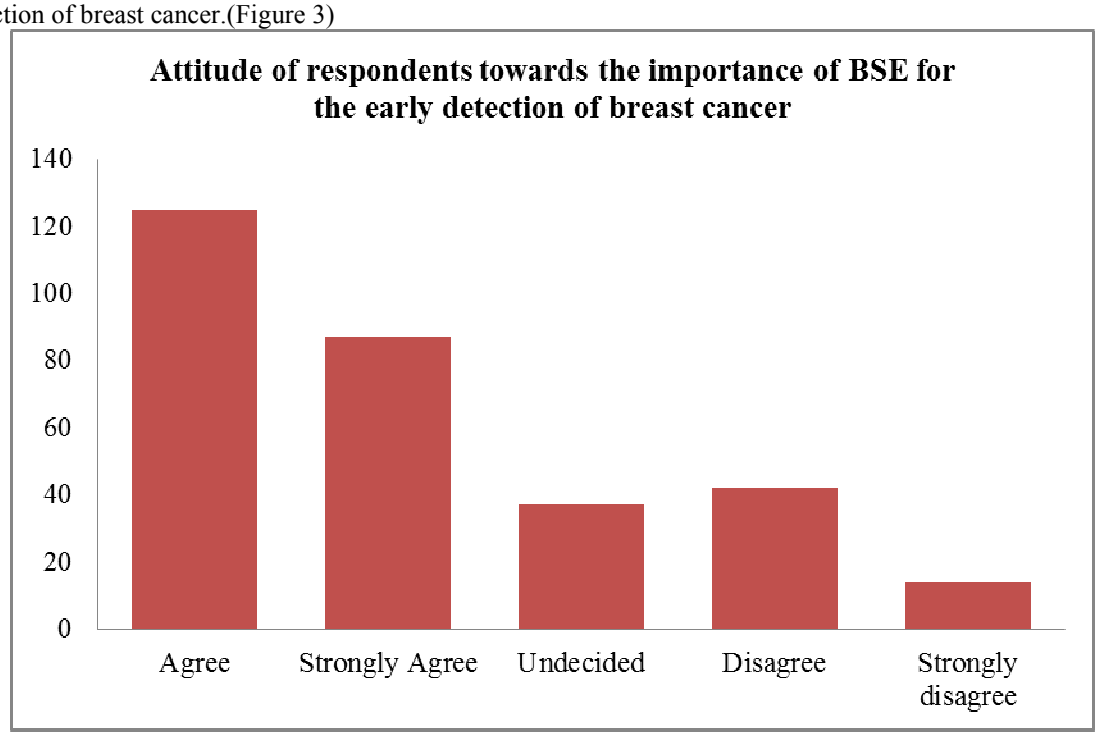

Figure 3: *Importance of breast self-examination for early detection of breast cancer among under graduate regular female students at Ambo University Main Campus, Oromia region, Ethiopia, 2015 (n=305)*

Practice breast self-examination

Students were asked if they practice early detection measures i.e BSE as a means of diagnosis of breast cancer; majority of the participants 243(79.7%) replied they did not practice BSE. Only 63 (20.7%) participants practiced BSE. Of the participants who practiced BSE, 28 (44.4%) practiced BSE monthly,23 (36.5%) were practiced once every three month,6(9.5%) and 6(9.5%) were practiced once quarterly and never once yearly respectively.(Figure 4)

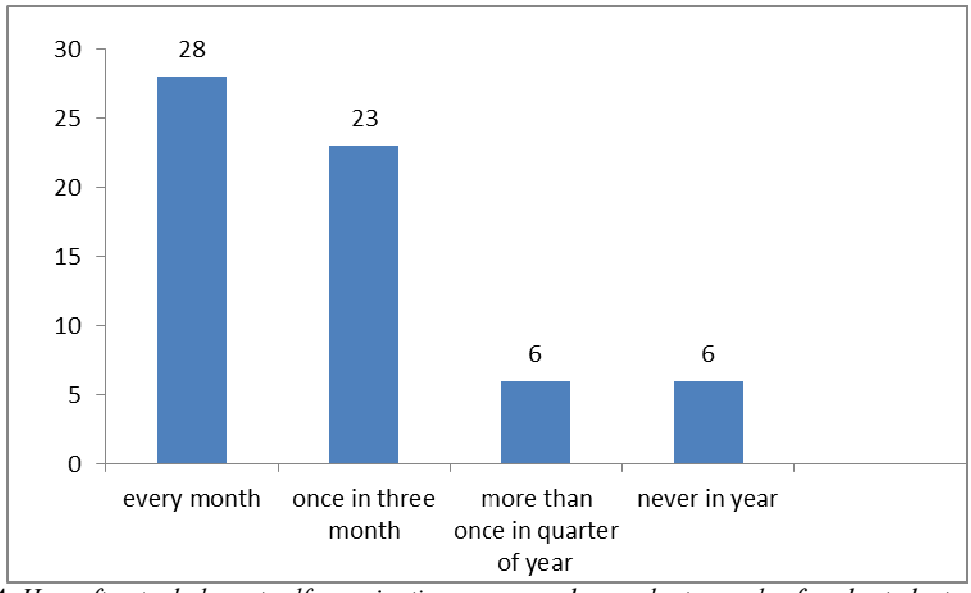

Figure4. *How often to do breast self-examination among under graduate regular female students at Ambo University Main Campus, Oromia region, Ethiopia, 2015 (n=63)*

Regarding the techniques of performing BSE most of them 21 (33.3%) were used circular technique while the least 2(3.2%) were used wedge techniques. Of the participants who never practiced BSE lack of knowledge how to perform BSE 67 (27.6%) and not having breast problem 49 (20.2%) were the commonest reason which prevent them to practice BSE. (Figure 5)

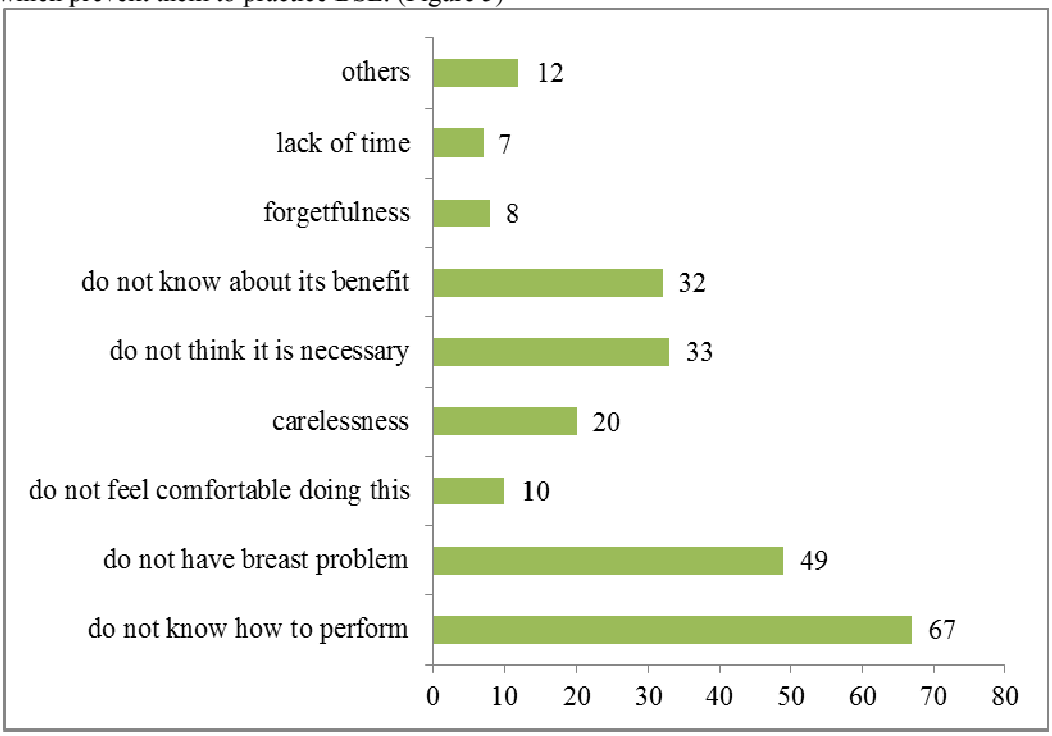

Figure5. *Reason for not practicing BSE by undergraduate regular female students of Ambo University Main Campus, Oromia region, Ethiopia, 2015*

Discussion

Breast self-examination is one of the vital screening techniques for early detection of breast lumps, especially cancer of the breast. The procedure, though simple, non-invasive, requiring little time, can only be practiced with the right attitude to sustain it and achieve the desired goal (7).

This institutional based cross-sectional study attempted to explore knowledge, attitude and practice of breast self-examination and early detection of breast cancer among under graduate regular female students in Ambo University, Oromia region, Ethiopia. In this study, majority of the participants 206 (67.5%) had heard about breast self-examination. The major source of information were Education in campus 75(36.4%) and mass

media 65(31.6). A similar study conducted among women in rural area of western turkey their information source were mass media programs were identified as the main source (16). Another similar study conducted among one thousands women in Nigeria showed that the most important source of information about BSE were physician and mass media (5).

Regarding the knowledge of participants about BSE, this study showed that 30.5 % of the respondents have knowledge about BSE. In addition to this the finding showed that 24.6% knew technique of BSE and 21.3% knew the appropriate time to do BSE. Unlike to this study the findings of the study conducted in western turkey revealed that 73.1% of the respondents were correctly identified BSE as early detection measure of breast cancer (16). This is higher than evidence from Nigeria (5). It reveals a potential of higher institution students were more educated about breast cancer screening.

Regarding the practice of breast self-examination, the American cancer society and other leading cancer agencies recommended monthly BSE to women (14).In this study, only (20.7%) of the participants reported that they had ever practiced BSE during their life time and 9.2% of the participants were practiced BSE monthly. Similar to our findings, a study from Lagos reported that 39.7% nurses examined their breast every month (17). Another study conducted in Putra University Malaysia among undergraduate female student showed that 36.7% of the respondents practice breasts self -examination (24). Study done in Mekele University among female students showed that 62.8% of respondents practice breast self- examination of which majority of the respondents 71.0% practiced monthly (25). The finding was higher than our finding this might be due to the respondents awareness towards breast self-examination is varies.

In similar study done in Nigeria showed that 39% of the respondents had ever practiced BSE every month (5). In another study, among west Gojam zone HEWs, was found that 37% of participants practiced BSE during their life time and 14.4% of participants practiced BSE monthly (8). The difference between this study and west Gojam study was due to the fact that our participants were students from different faculty and academic year which have different understanding about BSE practices but for the study conducted in west Gojam among HEWs all respondents were health professional back ground hence they have more knowledge about the importance of BSE than our respondents. In this study technique and lack of knowledge about BSE were significantly influenced the practice of BSE among the participants. Similar findings reported that there was a statistically significant correlation between lack of knowledge about BSE, technique and women's practice of breast self-examination (8).

Conclusion

The finding of this study revealed that respondents were not knowledgeable about BSE. This implies that health care system particularly policy makers, health care managers, health care professional and community based health extension workers are giving limited attention to non-communicable disease like breast cancer despite their public burden. Moreover very few of respondents have practiced BSE.

Not having breast problem and lack of knowledge how to perform BSE were the main reason mentioned for not practicing breast self-examination**.** Therefore, it is important to give health information on BSE techniques, actual age at which BSE start, appropriate time when to perform and its role on breast cancer prevention for female students in higher institution**.**

Recommendation

The obvious lack of knowledge among the university students highlights the urgent need for educational programs as tools for improving the current knowledge of BSE targeting women through the mass media and perhaps clinical settings.

The urgent need to develop a continuous awareness campaign among university students and Proper counseling should be routinely given by health care providers within hospitals and clinics to improve knowledge of BSE.

Competing interest: Authors declare that there are no competing interests.

Authors' contribution

SHF- designed the study, prepared questionnaire, and collected data, performed Analysis, wrote the report for this study and prepared manuscript.

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