



Addis Ababa University
School of Graduate Studies

Assessment of the Knowledge, Attitude and Practice of Breast Self Examination among Under Graduate Female Students of age 30 years and below in College of Natural and Computational Science of Addis Ababa University, Addis Ababa, 2015

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List of Abbreviations

AOR	Adjusted Odds Ratio
AAU	Addis Ababa University
AYA	Adolescent and Young Adult
BSE	Breast Self Examination
CBE	Clinical Breast Examination
CI	Confidence Interval
COR	Crud Odds Ratio
DNA	Deoxyribo Nucleic Acid
ECSPH	Ethical Committee of School of Public Health
KAP	Knowledge, Attitudes and Practice
NCDs	None Communicable Diseases
OR	Odds Ratio
SRS	Simple Random Sampling
SEM	Standard Error of Mean
USA	United State of America

Abstract

Background: Breast cancer is the most common among developed and developing countries. According to the American Cancer Society, about 1.3 million women diagnosed with breast cancer annually worldwide. The high breast cancer mortality rate in Sub-Saharan Africa has been attributed to a lack of public awareness of the disease which often leads to late diagnosis of the disease.

Objective: This study was to assess the knowledge; attitude and practice of breast self examination of female undergraduate students age 30 years and below of College of Natural and Computational Science College of Addis Ababa University Addis Ababa, 2015

Methods: A cross-sectional study design was conducted from Feb, 2015 to June, 2015 in College of Natural and Computational Science of Addis Ababa University on randomly selected under graduate female students. Simple Random Sampling technique was used to recruit 662 female undergraduate students. Data entered using EPI-INFO version 3.5.3 and analysis carried out using SPSS Version 20. Bivariate analysis was used and then entered to multiple logistic regressions model and significant variable were identified on the basis of OR, with 95% CI.

Results: In this study, 597 study subjects involved making a response rate of 90.2%. About 24.49% of the participants had good knowledge of breast self examination while 29.50% of the informants had good attitude about BSE. Of the total participants, 25.96% reported that they are practicing of breast self examination in the last 12months.

Conclusion: In general, the KAP of the participants were 24.49%, 29.5% and 25.9% respectively. This finding showed that the participants had poor KAP toward BSE. Therefore, Universities and other stake holders should plan to promote provision of information, education and communication targeting young females, and the general community to increase awareness to ward breast self examination.

1. Introduction

1.1. Background

For the death occurring globally, noncommunicable diseases (NCDs) share the vast majority killing large proportion of people every year. Existing data showed that nearly 80% of NCD deaths occur in low- and middle-income countries. Out of 57 million deaths that happened worldwide in 2008, 36 million were due to NCDs that include mainly cardiovascular disease, cancers, diabetes and chronic lung diseases (1). Of these total global death, cancer alone account for 21%. According to World Health Organization projections between 2010 and 2020, NCDs will be accountable for a significantly increased total number of deaths by 15% in the next decade (2).

In 2008, about 12.7 million cancer cases and 7.6 million cancer deaths are estimated to have occurred; in which 56% of the cases and 64% of the deaths occurred in the under developed countries. Breast cancer is account for about 23% and 14% of the total cancer cases and deaths worldwide respectively (3). Breast cancer is among the leading cause of cancer worldwide and the most frequent cause of cancer death in women in both developed and developing countries (3, 4, 5).

As another studies revealed, breast cancer is the primary cause of cancer death among women globally estimating that over 508, 000 women died in 2011 due to breast cancer worldwide. By the year 2015, the number of cancer case is expected to rise to 9 million and increase further to 11.5 million in 2030 (6). The probability of acquiring breast cancer in women age ranging from 0-49 is about 1 in 53 female (7).

Breast cancer screening refers to use of techniques to detect cancer at an early stage before it get worst stage. These screening methods are mammography, clinical breast examination (CBE) and breast self examination (BSE). And BSE is important kind of screening measure to detect mass in the breast, which is designed to be done by the women themselves (8).

1.2. Statement of the problem

Breast cancer is increasing from time to time as study done in California in 2012 showed that breast cancer is the most frequently diagnosed cancer among adolescent and young adult (AYA) women 15 to 49 years of age. Currently, AYA breast cancer accounts for approximately 14% of all AYA cancer diagnoses and 7% of all breast cancer (12). A study done in California in 2009 shown that women who started menstruating at an early age have high risk of developing breast cancer (13). Other main miss understanding was that breast cancer is believed to be a problem of the developed world, while nearly 50% of breast cancer cases and 58% of mortality occur in developing countries (14), and in 2012, almost 1.7 million new cases of breast cancer were identified worldwide, which responsible for 25% of all new cancer cases in women (15, 16, 17).

Another study done in 2010 in UAS showed that breast cancer is increasing, in the United State of America and it is the second most common cancer among women that responsible for one out of every cancer diagnoses. In the United Kingdome more than 41,000 women were diagnosed and over 14,000 women die with breast cancer every year, and while 2000 women each year were identified having breast cancer in Norway (5, 18). In another study done in the North Trinidad the incidence rate of breast cancer in female age range from 20-30years was about 1.2 %(19).

In the United States, more than 20% of breast cancers are detected before age 50 years, and greater than 4% are diagnosed before age 40 years (20).

The study done in Ethiopia in 2006 showed that more than 70% of breast cancer patients in most high-income countries are diagnosed in stages I and II, while only 20%-50% patients in the majority of low- and middle-income countries are diagnosed in these earlier stages. Breast cancer is the second most commonly occurring cancer following cervical cancer among women in Ethiopia. Out of estimated 10,000 cases in Ethiopia, 93% of them were women with thousand of more cases yet left unreported as women living in rural area (22). Ethiopian women typically present for care at a late stage in the disease (23).

The probability of surviving of some common cancers depends on how early they are detected and how well they are treated. The stage at which breast cancer diagnoses made is very important because it had an impact on the survival rate from it. Running to detected breast cancer in women at late or advanced stage had a lower five year survival rate (24).

Another study showed addressing early life, childhood, and adolescent exposures points to the importance of this period when the breast has not yet passed through terminal differentiation of cells. Early detection is crucial so that initiate early treatment before it gets advanced, and prevention of early cases must begin before this period or before adolescence (25).

The majority of breast cancer-affected women from low-income countries like Tanzania present with advanced clinical stage, resulting in limited and difficult therapeutic options and high mortality rates (24). Delays in breast cancer detection and treatment in under developed countries are related to patient, healthcare provider and system-mediated barriers to early detection and care (25). Breast cancer is a public health problem growing throughout the world, but especially in developing countries, where the incidence has increased as much as 5% per year (26, 27).

In a prospective study conducted at Tikur Anbessa in 1998 was designed to obtain information on demographic characteristics, clinical profile, and problems related to early diagnosis and treatment of breast cancer in 72 (62 females and 10 males) Ethiopian patients, the female to male ratio being 6.2: 1, and the females in this series developed breast cancer at a younger age (72% were premenopausal) and 76% had advanced disease (stages III and IV) at presentation which to mean that most people are seeking health care attention after the disease gets advanced (29).

Cancer was reported the second out of the ten top cancers registered at Tikur Anbesa Radiotherapy center (30).

In general, women in developing countries like Ethiopia do not perform breast self-examination for the reason that they had poor knowledge and lack of skill to perform BSE. Early detection of breast cancer plays an important role in decreasing its morbidity and mortality. Therefore, education about the importance of early detection to decrease mortality rates might be of accomplished by raising awareness of the various methods of early detection of breast cancer.

Most studies done in Ethiopia to determine the knowledge, attitude and practice of breast self examination were targeted health professionals like Nurses, Medical Doctors and Health Extension Workers while very few study was found to identify the KAP of BSE among University students in Makelle University and Haromaya University. However, to my knowledge only one previous research was done in the study subjects, and awareness about breast self examination among Ethiopian women is not well documented (31, 32).

BSE is simple, non-invasive, requires little time and cost free practice which can be performed both by young and old women's (9). By performing BSE once in a month, women can become more familiar with their breast so that they can learn normal finding and feeling thus may be able to recognize changes, such as thickening, lumps, spontaneous nipple discharge or skin change, and dimpling (10, 11).

1.3. Significance of the study

Early screening & treatment are very crucial to decrease breast cancer mortality rate and improve survival rate, which in turn decrease the burden on population at large (33, 34). Therefore breast self examination is the available means of screening methods along with clinical breast examination which is relatively non-invasive, less costly and performed by the client itself at their home environment. The client does not travel to health care facility so that she could not expose to further expense of transportation and food cost in developing countries like Ethiopia where mammography is much expensive. On top of this, being practicing BSE obviously increases the probability of early detection of breast cancer which in turn decreases family expense for treatment and reduces bed occupancy rate by breast cancer cases and its associated problems. As it's known early identification and treatment of any none communicable diseases like cancer aid a country to reduce negative socio-economic impact.

Therefore the aim of this study was to determine the knowledge, attitude and practice of breast self examination among the under graduate female students. Moreover, findings from the study can provide information on BSE for governmental health officials and other non-governmental organization those who are working on health especially on cancer to raise awareness about BSE among women. Similarly, the finding of the study provide valuable information for health policy makers, health planners for the designing of strategies in mass education to child bearing age

women to improve their KAP and its associated factors, and for the insurance of women role attainment. It provides base line information for the institution to strength health education about breast self examination of students in university campus. It becomes a base line for those who want to conduct another study on this area for further investigation at large.

2. Literature review

Breast self-examination is one method of screening techniques which is done by a woman herself with no cost. It helps a woman to find out any breast lump as early as possible. Studies have showed that a large proportion of women in developing countries enhance BSE and strongly advocate its importance as a screening technique (35).

A systematic evidence review done in USA 2009 showed the rate of breast cancer in those women well instructed in BSE was 6.5/ 1000, while 6.7/1000 in control group after eleven year follow of up. Women performing more frequent or longer duration of BSE were more likely to consider other screening methods like mammography and ultrasound compared to those women who perform less frequent or shorter duration (36).

2.1. Knowledge of Breast Cancer and Breast Self Examination

A survey done in USA on adult daughters found that participants who received information about screening method and breast cancer had more likely to report ever performed BSE (37).

A cross-sectional study design used in Turkey in 2008 on high school students (718) showed that media was identified as the main source of information that they had about breast cancer and 7% had family history of breast cancer. And 62.1% had no information about BSE while 21.8% of the students had knowledge regarding frequency of BSE. And only 13.2% of the sample had knowledge about the appropriate time to perform BSE. Regarding to the risk factors, 67.0% of the participant's positive family history is the main risk factor. Among the reasons for not practicing BSE, the most predominantly mentioned (98.5%) did not know the techniques of BSE (38).

In one of the cross-sectional and correlation study design used in Cyprus in 2013 on 2300 young university students to examine their health belief and practice of BSE 20.2% of the study subject had family history of breast cancer while 91.5% of the participants had heard something about breast mass via magazines (76.7%) and TV/Radio (74.4%). From these study subjects 91.5% heard about BSE though only 71% recognized the benefits of BSE (4).

A school based cross-sectional survey on adolescent school girls in Sri Lanka conducted to determine the awareness of breast cancer among adolescent girls revealed that the knowledge of the student toward the method for early detection was poor, which was about 9.4%. Out of these, only 17.1% study participants were aware how to perform BSE and almost half of the students did not consider the importance of BSE. This study also found students with positive family history of breast cancer were more likely to be aware of BSE than students who had negative family history. Majority (72.4%) of the participants and more than half (52.3%) of them mentioned early warning sign were lump and pain in the breast. According to the participant's responses, breast cancer history in the family (67.5%), smoking (46.9%) and prolonged hormonal therapy (34.8%) were among the main risk factors (39).

A cross sectional study conducted in Jordan in 2014 on 900 students to investigate their awareness & attitude toward breast cancer and BSE found that almost half of the students (51.8%) had information about the breast cancer and 34.9% had awareness of BSE as a method of early detection of breast cancer. The most common sources for the information they had about breast cancer and BSE was from their family/friends (45.2%) and health care providers (27.6%) (40).

A university based cross-sectional study was conducted in Iraq in 2011 on 276 students, and teaching staff and administrative staff to assess KAP regarding breast cancer and BSE showed that 8% of students reported ever heard about BSE. Nearly half (43%) of the participants knew that breast cancer is the most common cancer in women worldwide and Television (59%) was reported as their main source of information. Participants mentioned that advanced age (62.3%) and late menopause were increase risk of breast cancer (41).

A cross-sectional survey conducted in Angola University students in 2012 on 595 students to assess their perception toward breast cancer and knowledge of BSE of non-medical students found out the overall knowledge about breast cancer for non-medical student was 9.4 ± 0.21 (mean \pm SEM) out of a total possible score of 25 which showed lack of general knowledge on breast cancer. Among the non-medical students who were involved in the study 72.4% had reported that they were knowledgeable about BSE and knew breast cancer is the commonest

female cancer. Positive family history (55%) and prolonged hormonal therapy were among the predominantly mentioned by the participants. Moreover, more than 60% of the students did not aware that a change occurs to nipple could be related with cancer and 50% did not know appropriate time to practice BSE respectively (42).

A cross-sectional survey was undergone in Cameroon in 2012 on 120 participants aged between 20 and 30 years to identify their breast cancer and BSE awareness. Ninety five percent of the study subjects reported breast cancer could be preventable even though only 74.17% of total informants had information about BSE and only 35% of the participants reported BSE is performed on a monthly basis (43).

A descriptive study carried out in Tanzania in 2014 on 225 young adult women to investigate breast cancer knowledge, beliefs and screening practices showed that 98.2% knew breast cancer and 51% of participants could identified some symptoms of breast cancer (44).

A cross-sectional study was conducted in Mekelle University Ethiopia in 2014 on 792 female students found that the major proportion (71%) of the study participants relate breast cancer with smoking, and lump (79.1%) and pain in the breast (76.1%) were known among sign and symptom of breast cancer by the study participants. Only 59.5% of the participants reported BSE as a means of early detection of breast cancer where 41.4% of them knew how to practice it though the overall knowledge of participants was poor (75.9%). Among risk factors of breast cancer mentioned by the participants, smoking (71.3%), advanced age (21.1%) and positive family history (20.8%) were the predominantly replied (45).

2.2. Attitude of Breast Self Examination

A cross-sectional study done in Turkey in 2008 on 718 high school students showed some students (45.6%) not expecting having breast cancer (38).

In one of the cross-sectional and correlation study done in Cyprus in 2013 on 2300 young university students to examine their health belief and practice showed that 26% of informants in the study would not believe that they are susceptible and 46% of respondents believe that the breast cancer is a serious disease. Seventy one percent of the samples believe BSE had benefits and 33.4% had respond that they had confident in performing BSE (4).

A cross-sectional study was conducted in Iraq in 2011 on 276 students, and 110 teaching staff and administrative staff to assess KAP regarding breast cancer and BSE. The study found that few of the students 75/264 (28.4%) believe that early menarche increases the risk of breast cancer while 195/267 (73.0) believe that early detection is the best approach to breast cancer control. In this study, 9.4% of students did not believe in the benefit of BSE and don't trust their self examination (36.8%) (41).

In 2013 a cross-sectional study was conducted in Qatar on 1063 young women to identify their attitude about breast cancer, and screening practice. Less than half of the participants believe that cancer is preventable (42.8%). Participants who believed the cancer could be prevented or that cancer is hereditary were more likely to practice BSE than those who did not, and of those who reported ever practiced BSE only 18.9% believed cancer is preventable (46).

Another cross-sectional survey was undergone in Cameroon in 2012 on 120 young female aged between 20 and 30 years to identify their breast cancer and BSE awareness. Most participants (70%) believed breast cancer could be treatable and 95% of participants perceived BSE has importance (47).

A cross-sectional study conducted in Mekelle University, Ethiopia in 2014 on 792 female students to assess their KAP toward breast cancer was revealed that 55.8% of the informants did not believe breast cancer is a curable disease whereas 79.7% believe long time survival (> 5 year) if detected as early as possible. In this study, participants who perceived high risk and low risk of breast cancer were 60.4% and 10.1% respectively (45).

2.3. Practice of Breast Self Examination

Another cross-sectional study done in Turkey in 2008 on 718 high school students showed 6.7% of the respondents only practiced BSE on a regular monthly basis and 20% of the study subjects reported that they were performed irregularly. The main (98.5%) reason for those participants who were not practiced BSE, was lack of skill to perform it (38).

In one of the cross-sectional and correlation study done in Cyprus in 2013 on 2300 young university students to examine their health belief and practice 71.3% of women had performed BSE by themselves at least once, while only 22.7% practiced on a regular monthly basis, and 1.5% have never did any kind of BSE during the study period (4).

Another cross-sectional study design was conducted in Jordan in 2014 on 900 students to investigate their awareness & attitude toward breast cancer and BSE. Almost only 11% had reported that they have practiced BSE occasionally (40).

A cross-sectional study was conducted in Iraq in 2011 on 276 students, and 110 teaching staff and administrative staff to assess KAP regarding breast cancer and BSE. Of 202 students 47.5% reported practiced BSE and 43.2% of the respondents reported that they did not know the techniques to perform BSE (41).

In 2013 a cross-sectional study was conducted in Qatar on 1063 young women to identify their attitude about breast cancer, and screening practice. The study found that only 13.7% have reported ever practice of BSE (46)

A comparative cross-sectional survey conducted in Angola in 2012 on 595 university students to assess perception toward breast cancer and knowledge of BSE of medical students and non-medical students. . Though 38.7% respond they could confidently perform it (42).

As a cross-sectional survey that was undergone in Cameroon on 120 young women aged between 20 and 30 years to identify their breast cancer and BSE awareness, 40% had reported they never practiced BSE and only 35% of study subjects practiced it in monthly basis, while 41% did not know how to perform it (43).

A descriptive study carried out in Tanzania in 2014 on 225 young adult women to investigate breast cancer knowledge, beliefs and screening practices showed Among the participant who aware of BSE only 19.1% and 14.2% practice it occasionally and monthly respectively (44).

In cross-sectional study conducted in Mekelle University, Ethiopia on 792 female students to assess their KAP toward breast cancer found out that 37.2% of participants reported practice of BSE and of those who practiced BSE only 71% on monthly basis. The most reasons for not practicing BSE, which were reported by the participants, were having no breast problem (57.4%) and lack of skill (24.9%) (45).

2.3 Conceptual Frame Work

The following figure showed conceptual frame work of independent variables and dependents variables (47).

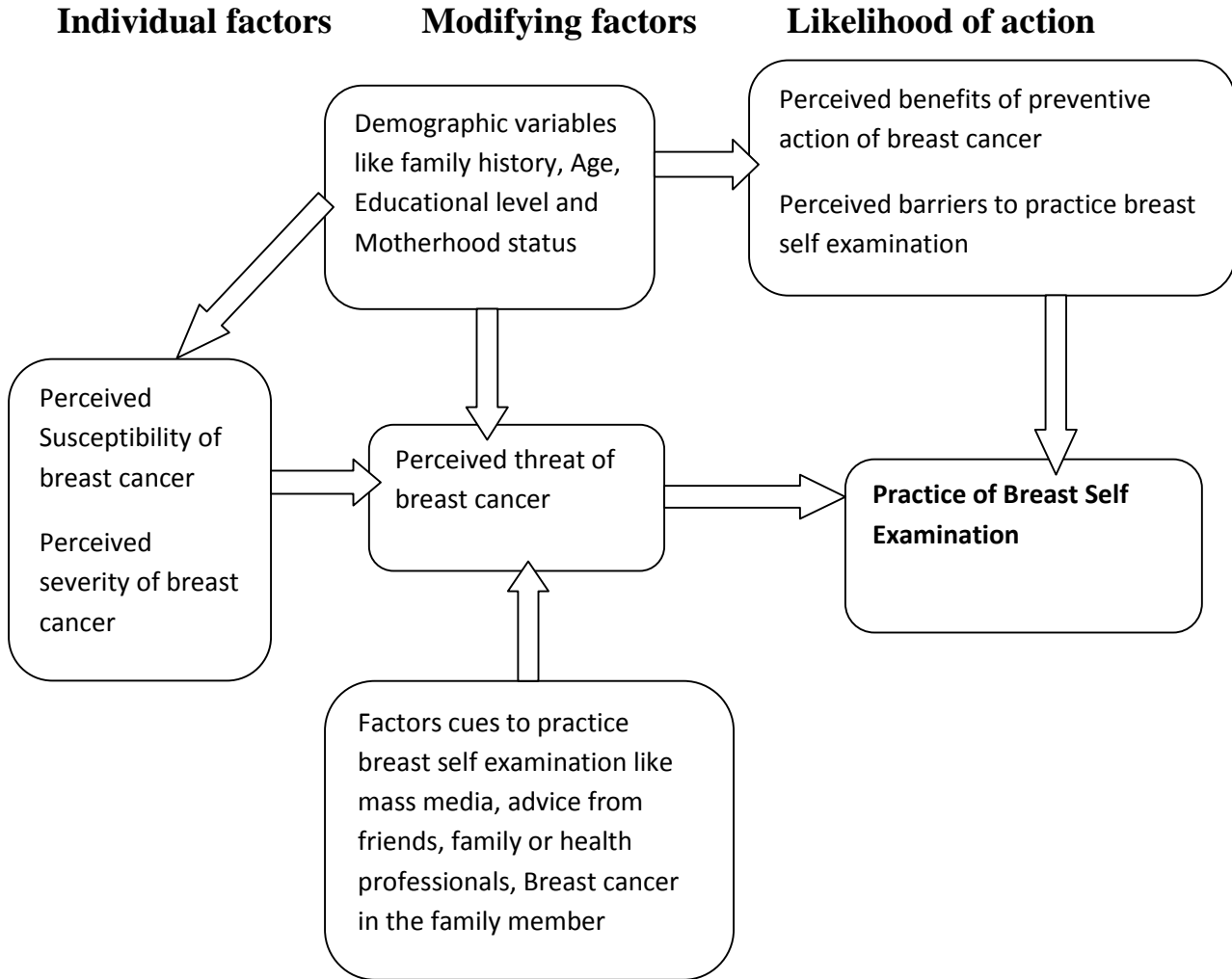


Figure 1: Conceptual frame work showing the relationships between BSE and independent variables.

3. Objectives

3.1. General objective:

Assessment of the knowledge, attitude and practice of breast self examination among female under graduate students age 30 years and below of Natural and Computational Science of Addis Ababa university, Addis Ababa 2015

3.2. Specific objectives:

-) To assess Knowledge of breast self examination among undergraduate female students of Natural and Computational Science of Addis Ababa University, Addis Ababa, from January to May 2015
-) To assess Attitude of breast self examination among undergraduate female students of Natural and Computational Science of Addis Ababa University, Addis Ababa, from January to May 2015
-) To assess Practice of breast self examination among undergraduate female students of Natural and Computational Science of Addis Ababa University, Addis Ababa, from January to May 2015

4. Methods and Materials

4.1. Study area and study period

The College of Natural and Computational Science of Addis Ababa University is located in Addis Ababa, capital city of Ethiopia and African union.

Modern higher education in Ethiopia began with the founding of the University College of Addis Ababa on March 20, 1950. When the Haile Selassie I University was established in 1961, the Faculty of Science was reorganized in to five teaching Departments, all offering B.Sc. degree programs.

College of Natural Science and Computational is among the seven campuses of Addis Ababa University; in which six in Addis Ababa and one in Bishofitu, which is about 45 kilometers away from Addis Ababa. The College of Natural and Computational Sciences in its more than 50 years of establishment has gone through various stages of development. Currently, the College comprises eight departments; Biology, Physics, Chemistry, Mathematics, Statistics, Sport Science, Computer Science and Earth Science, and multidisciplinary programs offering undergraduate and postgraduate degrees. According to information obtained in 2015 from Office of Dean of students of AAU the number of undergraduate female students in the above department was 216, 32, 91, 54, 98, 34, 107 and 82 in each department respectively. Student's clinic service is one of the services that university provides to regular students without fee medical care. The college has one student clinics that engaged in providing care for students with minor health problems and also provide counseling services. The clinic is referring those students with major health problems that beyond their capacity to College of Health Science (Tikur Anbesa Specialized Referral Hospital) for further investigation and treatment.

4.2. Study design

A cross-sectional study design was conducted to assess the knowledge, Attitude and Practice of study subjects to ward breast self examination.

4.3. Source of population

The source population of this study was all population of Natural and Computational Science College, Addis Ababa University.

4.4. Study population

Under graduate female students were selected from all departments of Natural Computational Science College like Biology, Physics, Chemistry, Mathematics, Statistics, Earth science, Sport Science and Computer science departments of Addis Ababa University.

4.5. Inclusion criteria

All under graduate young female students of age 30 years and below of Natural and Computational Science were included.

4.6. Exclusion criteria

Female students who undergone mastectomy of both breast, have breast cancer, have no upper extremity or has weakness of upper limbs, and those who had family history of breast cancer were not included.

4.7. Sample size determination

Sample size was determined using sample size formula for estimating a single population proportions with the assumption that margin of error of 4%, confidence interval of 95%. It is calculated based on the proportion of knowledge (41.15%) and practice (37.2%) of breast self examination by university students obtained from the study conducted on female under graduate students in Makelle University (45). The attitude is considered as 50% since there was no study shown the proportion of Attitude of female undergraduate student students toward breast self examination so far to the best of my knowledge.

$$n = \frac{(Z)^2 P(1-P)}{(d)^2}$$

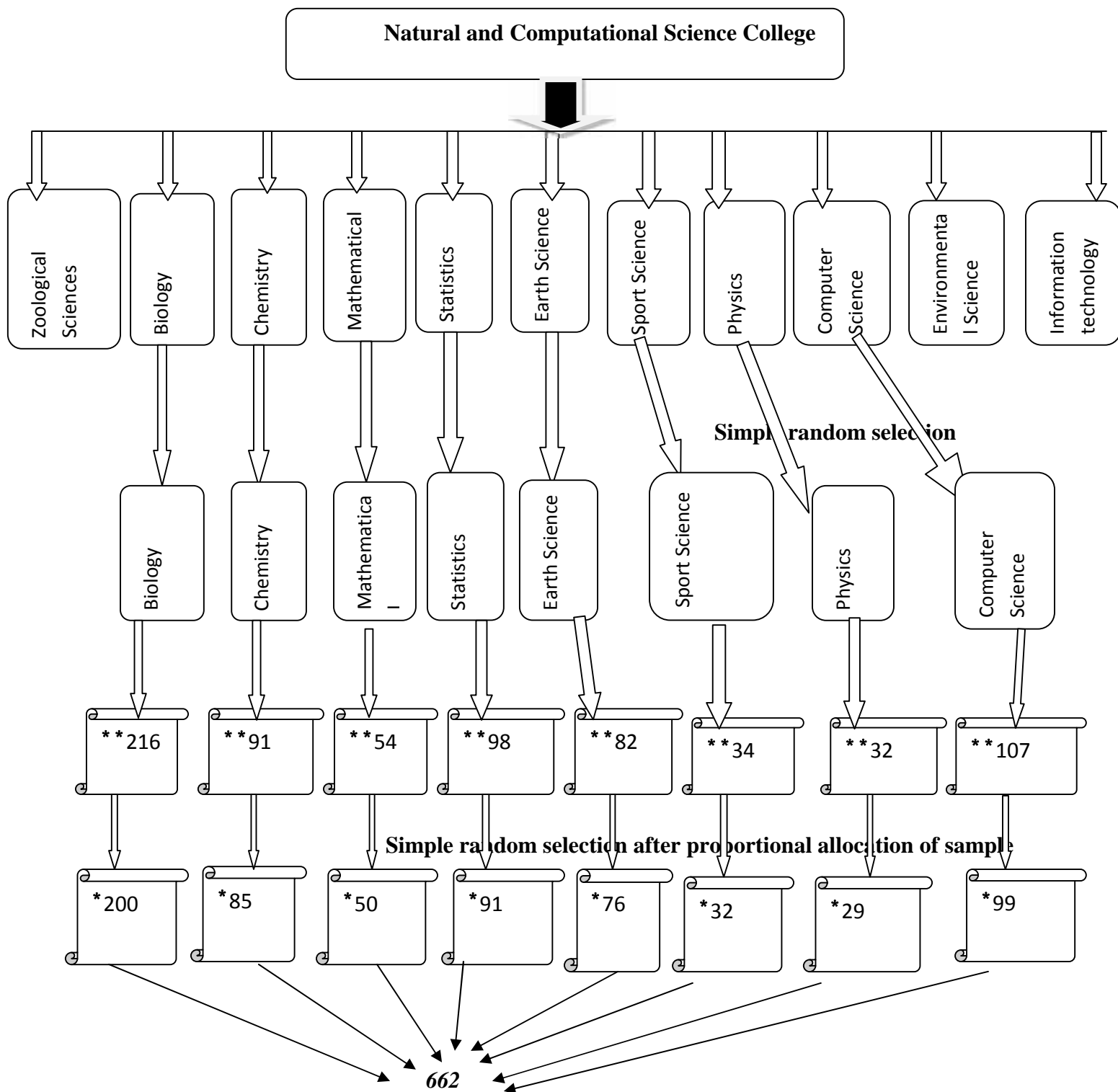
Where n = estimated sample size; Z = confidence interval (1.96)

Variables	Sample size determination	Calculated sample size
Knowledge of BSE	$n = \frac{(1.96)^2 0.411(1 - 0.411)}{(0.04)^2}$	372
Attitude of BSE	$n = \frac{(1.96)^2 1.960.5(1 - 0.5)}{(0.04)^2}$	601
Practice of BSE	$n = \frac{(1.96)^2 0.372(1 - 0.372)}{(0.04)^2}$	359

The larger sample size is taken which is 601. Adding 10% non-response rate the total sample size was calculated to be 662 students.

4.8. Sampling procedure

The study was conducted using simple random sampling method to select study subjects from all departments in Natural and Computational Science College. The college had eight departments like Biology, Chemistry, Mathematics, Physics, Statistics, Earth Science, Sport science and Computer science departments was selected. Then, the calculated sample size was distributed to each department using probability proportionate to their respective size. The required number of regular undergraduate female students (the sample size) was again distributed to each year of study using probability proportionate to their size. Finally, the study subjects were selected using a SRS technique from each of respective department.



**** Total number of female students, *study subjects taken from each department**

Figure 2: Schematic presentation of sampling procedure of Natural and Computational College in Addis Ababa University, Addis Ababa 2015.

4.9. Data Collection Instrument and Technique

Self-administered questionnaire was designed to elicit the KAP of undergraduate female students in Natural and Computational College of Addis Ababa University. The questionnaire consists of the questions related to socio-demographic, knowledge, attitude and practice of breast self examination which were mentioned below in the variables section. Seven 12th grade completed facilitators was selected by the principal investigator. One BSc nurses with similar work experience were assigned to supervise the data collection process. Training was given for facilitators and supervisors for half day. In the training session the data collectors trained on the objective of the study, how to collect the data and keep confidentiality of information obtained from respondents. All the collected data was checked for completeness, accuracy and consistency by the principal investigator. Pre-test was done on 5% of the subjects in order to check if any difficulty before the start of actual data collection.

4.9.1. Variables

4.9.1.1. Dependent variable

The dependent variable of the study was consistent the knowledge, attitude and practice of breast self examination of undergraduate female students of Natural and Computational College.

4.9.1.2. Independent variables

The explanatory that influence practice of breast self examination were selected on the basis of literature review. Those factors were categorized into socio-demographic, knowledge, attitude and practice of BSE variables. These are:

1. Socio-demographic variables(Such as Age, Educational level, Marital status, Ethnicity, religion, motherhood status, age at first menstruation and History of breast cancer in the family).
2. knowledge of breast cancer and risk factors of breast cancer, source of information, personal risk to breast cancer, suggested sign and symptom of breast cancer, and knowledge of age at which to start, frequency of BSE, time to practice BSE, techniques of palpation and position to examine self breast.

3. Believe toward time consumed to practice BSE, perceived barriers to practice BSE, opinion regarding to the need of approval to BSE and perceived factors that motivate to BSE.
4. Factors cues to practice breast self examination like mass media, advice from friends, family or health professionals, Breast cancer in the family member

4.10. Data quality management

Pre-test was made in school of commerce on regular female undergraduate students prior to the actual data collection to ensure quality, clarity, and understandability of the questionnaires. Depending on the result of the pre-test, correction and modification was done on the questionnaire before actual data collection begins. The questionnaire was originally prepared in English and translated to Amharic language and translated back to English to check for consistency. Two supervisors and the principal investigator were supervised the data collection processes and necessary correction was made on time.

4.11. Data processing and analysis

Data was edited by principal investigator, and coded, entered and cleaned using EPI-ENFO version 3.5.1. Range and skip checks were done automatically during data entry. Data was transported to SPSS version 20 software package for cleaning and for statistical analysis. Simple descriptive statistics such as frequencies distribution, relative frequency, and Odds ratio was done as appropriate and the result was presented in tables and graphs.

Logistic regression model: Bivariate and Multivariate analysis was used to determine the relationships between the independent variables and dependent variables. At the bivariate stage, chi-square test was employed in order to identify the important explanatory variables which then those with a p value less than 0.05 was retained for further investigation and into regression models to control the confounding effect of various variables.

4.12. Operational definition of the study

Knowledge: Information or awareness related to breast cancer and breast self examination that an individual had. Those who were score less than 50% considered as having poor knowledge and those who score above 50% have good knowledge. Knowledge questions were composed of 16 items in which few of the items were arranged as yes or no and multiple choices with more than one possible answer.

Attitude: Perception of an individual toward breast cancer and breast self examination. Those who were have score less than 50% have negative attitude while above 50% were be regarded as having positive attitude toward BSE. It was composed of seven questions consistent likert questions and questions simple asked participants opinion.

Practice: The action or doing of breast self examination at monthly basis after menstruation was be done in standing and lying position via inspection and palpation. Seven questions were asked, and composed of Yes or No questions and other kinds of multiple choice questions.

Screening: used to denote a systematic effort to detect breast mass or tumor by either performing a breast self examination

Breast self examination: is feeling or examining own breast to develop self awareness about own breast of under graduate female students of age 30 years and below. Breast self examination is performed monthly 2-7 days after cessation of menstrual flows.

5. Ethical consideration

Ethical approval was obtained from the Ethical Committee of School of Public Health (ECSP) of Addis Ababa University, College of Health science. Letter of permission was written from Addis Ababa University School of Public Health to respective departments. Clear communication was made with the department heads and study participants about the purpose and the procedures of the study by preparing providing them information sheet. Informed consent was obtained from each respondent. Participants were assured that they would never face any problem for participating or for not participating in the study and that they can quit at any time. Privacy and confidentiality were maintained.

6. Dissemination of results

The thesis will be presented to Addis Ababa University, school of Public Health for partial fulfillment of the degree of Master of Public Health. The findings of the study will be submitted to the Federal Ministry of Health (FMOH) and the Science faculty.

7. Result

7.1. Socio-demographic characteristics of study subjects

As depicted in table 1, a total of 597 undergraduate regular female students participated giving a total response rate of 90.2%. The minimum and maximum ages of the participants are 18 and 29 years respectively, while the median age at which the participants seem first menses was 14 years. More than half of the respondents' age was between 20 and 24 years 385 (64.49%) with median age of 21 years. Majority of the respondents 379 (63.48%) were Orthodox followed by Protestant 120(20.10%). Regarding their marital status about 545(91.28%) respondents were single. Nearly half 225 (42.71%) of the respondents educational level were first year followed by 174 (29.15%) first year students. Of the 597 students included in this study 10(1.68%) responded that they had family history of breast cancer. According to their response regarding to family history, from the total family with history of breast cancer 4(40%) aunts and 3(30%) mothers of the respondents had history of breast cancer, while 587(98.32%) informants had no family history of breast cancer.

Table 1: Socio-demographic characteristics of under graduate regular female students of College of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597)

Variables	Total frequency	Percent
Age		
15-19	152	25.46%
20-24	385	64.49%
25-29	60	10.05%
Educational level		
First year	255	42.71%
Second year	174	29.15%
Third year	124	20.77%
Fourth year & above	44	7.37%
Marital status		
Single	545	91.29%
Married	42	7.04%
Widowed	5	0.84%
Divorced	5	0.84%

Religion		
Orthodox	379	63.48%
Protestant	120	20.10%
Muslim	86	14.41%
Catholic	11	1.84%
Other	1	0.02%
Ethnicity		
Oromo	153	25.63%
Amhara	229	38.36%
Tigre	75	12.56%
Gurage	82	13.74%
Others	58	9.72%
History of breast cancer in the family		
Yes	10	1.68%
No	587	98.32%
Family with history of breast cancer (N=10)		
Mother	3	30%
Sister	2	20%
Grand mother	1	10%
Aunts	4	40%

7.2. Knowledge characteristics of study subjects

As illustrated in table 2, the majority 399(66.83%) and 238(39.87%) of the study subject knew that breast cancer is the commonest female cancer and have hereditary factor respectively. Of the respondents participated in this study 245(41.04%) knew nothing about whether breast cancer is curable or not, while 312(52.26%) explained that they have no risk of breast cancer. Regarding to their knowledge about benefits of early detection, and the association of obesity and lack of activity with breast cancer 176(29.94%) of the study subject knew that early detection increase chances of survival and 376(62.98%) had no knowhow that whether obesity and lack of activity increase risk of acquiring breast cancer. Concerning the knowledge of informants about the contributing factors of breast cancer, smoking was the most common risk factor mentioned by 124(20.77%) of the participants that followed by having positive family history 106(17.76%) and hormonal therapy for a long period 73(12.23%). Of the study subjects involved in this study (597), only 59(9.88%) and 44(7.37%) knew that no breast feeding and advanced age as a factors increasing the risk of breast cancer respectively, while 109(18.26%) of the participants claimed that they do not know whether any of the above factors that outlined do increase the risk of developing breast cancer.

Regarding the knowledge of signs and symptoms of breast cancer, 111(18.59%) mentioned that pain in the breast suggest breast cancer, and 70(11.73%) and 69(11.56%) of informants responded discharge from the breast and lump in the breast indicate presence of breast cancer respectively, while only 9(1.51%) of study subjects knew dimpling in the breast as a good sign of breast cancer. Of the total study subjects 198(33.17%) claimed that they do not know signs and symptoms of breast cancer.

Table 2: Knowledge of breast cancer of under graduate regular female students of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597).

Variables	Frequency	Percent
Heard breast cancer as a commonest cancer in female		
Yes	399	66.83%
No	198	33.17%
Breast cancer is hereditary		
Yes	238	39.87%
No	340	56.95%
I don't know	19	3.18%
Breast cancer is curable		
Yes	210	35.17%
No	142	23.79%
I don't know	245	41.04%
Obesity & lack of regular activity increase risk of breast cancer		
Yes	120	20.10%
No	101	16.92%
I don't know	376	62.98%
Have risk of breast cancer		
Yes	74	12.40%
No	312	52.26%
I don't know	211	35.34%
Early detection of breast cancer increase chances of survival		
Yes	176	29.94%
No	103	17.25%
I don't know	318	53.27%
Contributing factors of breast cancer		
Positive family history	106	17.76%
Advanced age	44	7.37%
Early menarche	32	5.36%

No breast feeding female	59	9.88%
Smoking	124	20.77%
Having large breast size	16	2.68%
Prolonged hormonal therapy	73	12.23%
More than four of the above	34	1.01%
I don't know	109	18.26%
Suggested sign and symptoms		
Lump in the breast	69	11.56%
Discharge from breast	70	11.73%
Pain in the breast	111	18.59%
Change in size of breast	59	9.88%
Dimpling in the breast	9	1.51%
Breast ulcer	27	4.52%
Weight loss	6	1.01%
Change in shape of breast	9	1.51%
Pulling in of nipple	18	3.02%
Five or more of the above	21	3.52%
I don't know	198	33.17%

Overall knowledge of breast cancer is 24.65%

Concerning to the source of information, majority of the source of information of the study subjects who participated in this study was Electronic media 257 (64.4%) and health professional 58 (14.5%). Similarly 44(11.0%) and 25(6.3%) were from friends and reading Books and Journals, respectively, and very few of them from their mother 5(1.3%) and other sources like internet and other family members 10(2.5%).

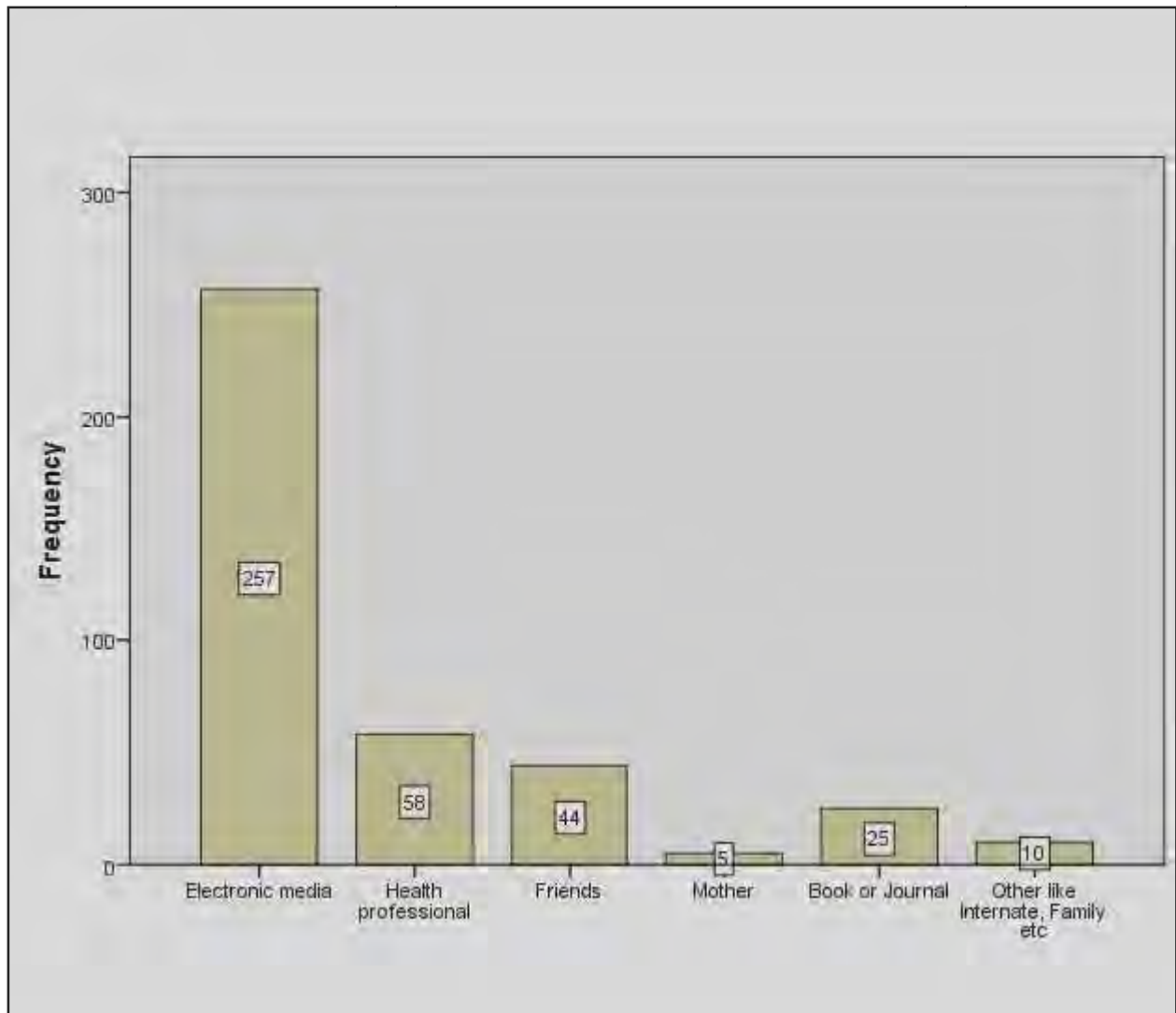


Fig 3: Showing sources of information of the undergraduate female students of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015(n=339).

As depicted in table 3, majority 342(57.50%) of the respondents had perviously heard about BSE. Morethan half 403(67.50%) of participants mentioned that only female should perform BSE though only 163(27.30%) of the informants correctly responded saying that both sex should perform BSE. More than one-third 210(35.18%) of the study subjects were not know appropriate age at which BSE has to be started while only very few 63(10.55%) of the participants had mention 19-20 years is the correct age to start performing BSE. How ever, out of the total participants who has taken part in this study 164(27.47%) reported performing BSE monthly and almost half 292(48.91%) of the participants did not know how often BSE has to be performed.

Concering the knowledge about the time to do BSE of female with regular menstrual cycle, 162(27.14%) of the participants responded 2-5 days after cessation of mense is the correct time to perform BSE, while morethan half 368(61.64%) of the informants did not know when female with regular menstrual cycle should perform BSE. Among 597 participants, 376(62.98%) of the study subjects did not know when BSE has to be done by those female with irregular menstrual cycle, and 89(14.91%) of them said women with irregular menstrual cycle should perform BSE during menses, although 70(11.73%) responded regular day of each month is the correct time to perform BSE.

Table 3: Knowledge of BSE of under graduate regular female students of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597)

Variables	Frequency	Percent
Heard about BSE		
Yes	342	57.29%
No	255	42.71%
BSE should be performed by:		
Female	403	67.50%
Male	7	1.17%
Both	163	27.30%
I don't know	24	4.02%
Age at which BSE started:		
10-12years	39	6.53%
16-18years	183	30.65%
19-20years	63	10.55%
30years	102	17.09%
I don't know	210	35.18%
Frequency to perform BSE:		
Monthly	164	27.47%
Every 2-6 months	103	17.25%
Yearly	38	6.37%
I don't know	292	48.91%
When to perform BSE		
2-7 days after cessation of menses		
For regular	162	27.14%
For irregular	62	10.39%
During menses		
For regular	67	11.22%
For irregular	89	14.91%
Regular day of each month		
For regular	-	-
For irregular	70	11.73
I don't know		
For regular	368	61.64
For irregular	376	62.98

Over all knowledge of BSE is 24.49%

As it is illustrated in Fig 2, participants were asked about their knowledge of correct position during BSE. Accordingly, 311 (52.09%) replied that they don't know the correct position to be assumed when performing BSE, while another 122(20.4%) responded standing in front of the mirror alone is correct position to do BSE. Of the female students who participated in this study, only 59(9.9%) said that standing in front of the mirror and lying on back are the correct position to be assumed during breast self examination.

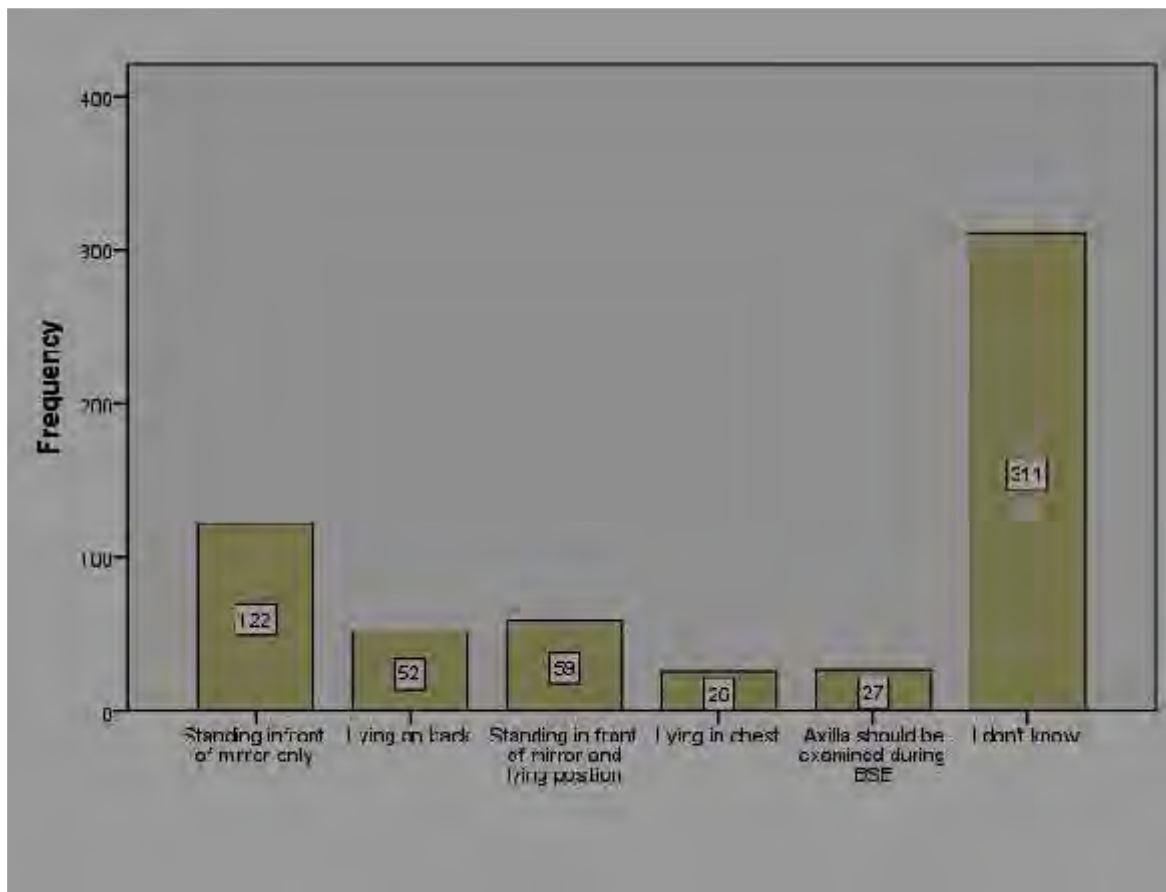


Figure 4: Knowledge about correct position to perform BSE of under graduate regular female students of Natural and Computational Science, Addis Ababa University, Addis Ababa, Ethiopia, 2015(n=597).

7.3. Attitude characteristics of the study subjects

One-third 197(33.0%) of the informant perceived that performing of BSE is very painful, and nearly one-third 191(31.99%) believed that BSE is embarrassing kind of screening method. Participants were asked about their perceived barriers of BSE. Accordingly, 219(36.68%) of female students who were involved in this study replied that anxiety and fear are their main perceived barriers to perform BSE, another 189(31.66%) of participants said that performing BSE make them worry unnecessarily. About one-third 199(33.33%) of the participants replied that exercising of BSE help them to detect breast cancer earlier though 300(50.25%) of the informant believed that BSE has no benefit and they would immediately know if something is going wrong to their breast. Most 256(42.88%) of female students in this study believed that they would need approval from their doctor to start BSE, while 133(22.28%) opinion of their family to begin performing BSE.

A total of 182 (30.49%) out of the 597 female students did disagree that BSE is necessary and 167(27.97%) of the participants did moderately disagree on the necessity of BSE. Nearly one-third 185(30.9%) of the informants were strongly agree that BSE take too much time while 176(29.48%) agree that BSE take too much time to exercise. One hundred ninety (31.83%) of the respondents agreed that of making breast surgery affects woman's appearance and can motivate them to start BSE though 125(20.4%) disagreed. In general, only 29.50% of participants had good attitude toward BSE.

Table 4: Attitude toward BSE among under graduate regular female students of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597).

Attitude questions	Frequency	Percent
BSE is necessary		
Strongly agree	25	4.19%
Moderately agree	44	7.37%
Agree	140	23.95%
Disagree	182	30.49%
Moderately disagree	167	27.97%
Strongly disagree	39	6.53%
BSE take too much time		
Strongly agree	185	30.90%
Moderately agree	60	10.05%
Agree	176	29.48%
Disagree	83	13.90%
Moderately disagree	21	3.52%
Strongly disagree	72	12.06%
Performing BSE:		
Embarrassing	191	31.99%
Disgusting	118	19.77%
Very painful	197	33.00%
Cause nothing	91	15.24%
Perceived barriers to perform BSE		
Make me worry unnecessarily	189	31.66%
Anxiety & fear	219	36.68%
Embarrassment to touch my breast	127	21.27%
Think nothing as barrier	62	10.39%
Need approval to start BSE from:		
Doctors recommend	256	42.88%
My family	133	22.28%
Friends	155	9.21%
Need no approval from any body	53	8.88%
Perceived benefit of BSE		
Helps to detect breast cancer earlier	199	33.33%
Helps find lump earlier	98	16.42%
Has no benefits, I would immediately know if something is wrong	300	50.25%
Fear of breast surgery motivate women to have screening		
Strongly agree	14	2.35%
Moderately agree	72	12.06%
Agree	190	31.83%
Disagree	125	20.40%
Moderately disagree	167	27.97%
Strongly disagree	29	4.86%

29.50% of participants had good attitude about BSE

7.4. Practices characteristics of study subjects

Regarding to their BSE practice, more than half 339(56.78%) of the informants were never practice BSE at all. However, of those female students who reported that they are practicing of BSE 155(25.96%) in the last 12months only 66(42.58%) performed on a regular basis. Majority 192(74.19%), from the total 258(43.22%) who reported practicing of BSE, of the respondents replied that they practicing BSE on an irregular basis. According to the participants report, 48(18.6%) of participants responded that they have seen palpable mass or lumps in their breast. According to the response of those study subjects who did not practice BSE, more than one-third 132(38.94%) of them replied that they do not know the techniques so that they are not able to start it, and 51(15.04%) of the respondents said that they have no sign and symptom of breast cancer to start BSE.

Table 5: Practice of BSE among under graduate regular female students of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia (n=597)

Variables	Frequency	Percent
1. Ever practice BSE	258	43.21%
Practice BSE in the last 12months	155	25.96%
Yes	66	42.58%
10 times	89	57.42%
No (Practice BSE before 12months)	103	39.92%
Last time perform BSE		
Weeks ago	48	18.60%
Month age	107	41.47%
Year ago	103	39.92%
Seen palpable mass or lump		
Yes	48	18.60%
No	210	81.40%
2. Never practice BSE at all	339	56.78%
Reason for not practicing BSE (n=339)		
I think BSE is not necessary	7	2.06%
I don't know the techniques	132	38.94%
I afraid to touch my breast	20	5.9%
Feeling of discomfort	29	8.55%
Fear of its outcome	30	8.85%
Too young to practice	11	3.24%
No sign and symptom of breast cancer seen	51	15.04%
No one recommend me	59	17.40%

Regarding to their reason of starting BSE, almost one-third 86(33.33%) of the participants replied that they are influenced by information about breast cancer that is transmitted via media while 66(25.58%) started performing of BSE due to advice of health professionals like Doctors, nurses and other professionals.

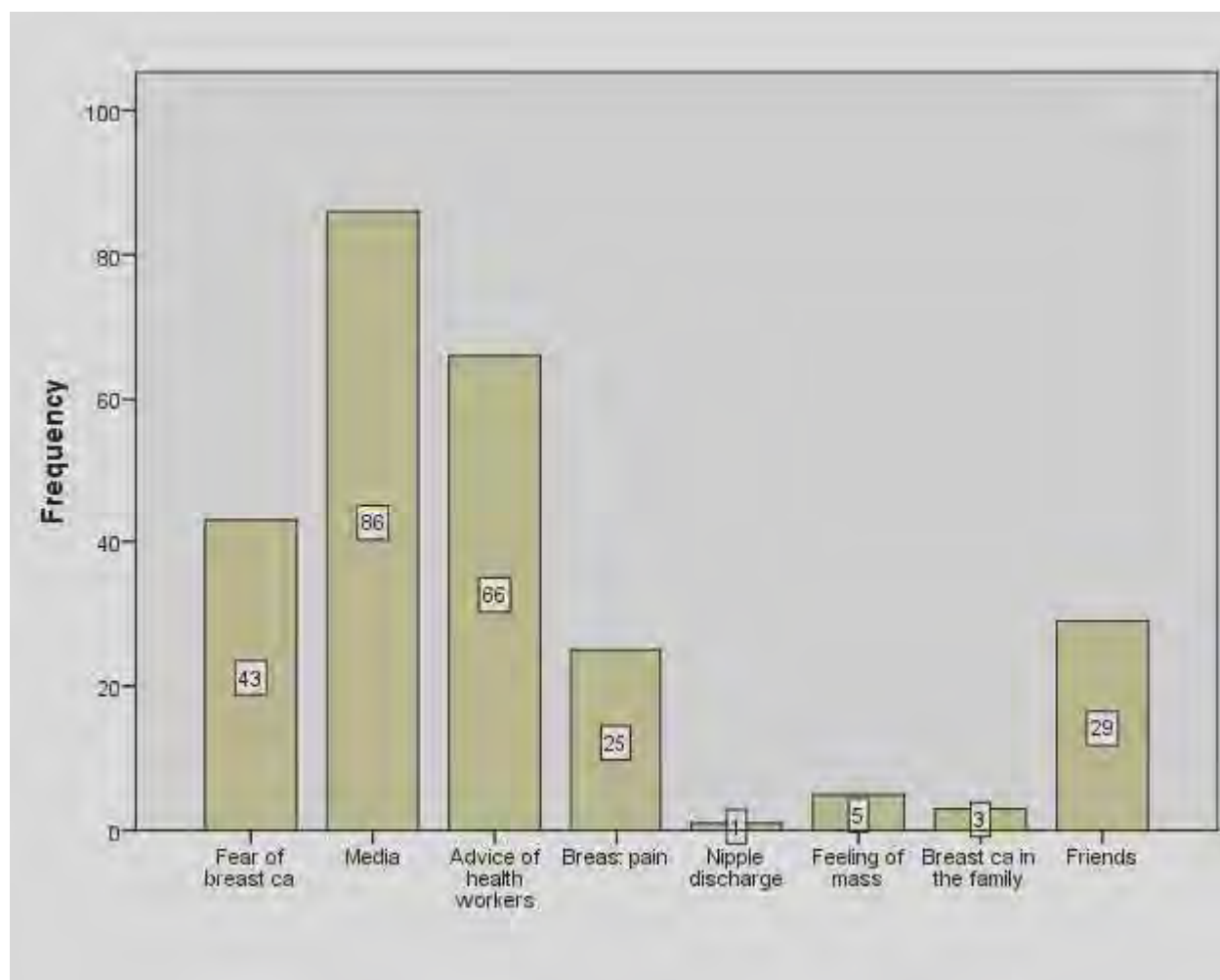


Figure 5: Reason perceived for practicing BSE of under graduate regular female students of Natural and Computational Science, Addis Ababa University, Addis Ababa, Ethiopia, 2015(n=258).

7.5. Association of socio-demographics, Knowledge and Attitude with the practicing of BSE of study subjects

As illustrated in table 6, of the total participants who involved in practicing of BSE 155(60.08%) in the last 12 months, the majority 92(59.35%) of the study subjects were those age between 20 and 24 years while 73(47.1%) of the informant's educational level was first year. From the total 442(74.04%) of the participants who said that they were not practicing BSE in the last 12months, the majority 66(14.93%) of the under graduate female students in Natural and Computational Science reported that history of breast cancer in their families.

In bivariate analysis age and education were significantly associated with practice of BSE among this under graduate female students. The odds of practicing BSE among participants age's 20-24 and 25-29 years were {COR: 2.143; 95%CI: (1.140, 4.028)} and {COR: 2.275; 95% CI: 1.294, 3.999} compared to those participants age's between 15-19 years respectively. Similarly the of odds performing BSE of those participants with educational level of second year was {COR: 0.295; 95%CI; (0.1, 0.873)} compared to those of first year level. As depicted in table 6, of the respondents who had family history of breast cancer 34(21.94%) of participants replied that they practiced BSE in the last 12months. Furthermore, the odds of those participants who heard about BSE and got advice from health worker were {COR: 0.187; 95% CI: (0.118, 0.297), and COR: 0.406; 95% CI: (0.166, 0.992)} as compared to those participants who had no information about BSE and those who initiate BSE as result of peer pressure respectively. Regarding to the time consumed to practice BSE, the odds of those informants who had moderately disagree as compared to those who were strongly agree that BSE take too much time was {COR: 2.4; 95% CI: (1.32, 4.364)}.

As depicted in table 6, factors that are independently associated with consistent practice of BSE were explored using multivariate analysis. Those variables that showed significant association with practice of BSE from bivariate were included in multivariate analysis to check for confounding. Age, Educational level, being heard about BSE, frequency of BSE, Doctor's recommendation, Perceived benefits like early detection of breast lump or cancer, Fear of breast cancer and Being seen palpable mass in the breast were independently associated with the practice of BSE. In multivariate analysis those participants age's 20-24 and 25-29 years were 2.651 and 3.241 times more likely to practice BSE respectively than those informants age between 15 and 19 years. Similarly the educational level of participants has significant

association with practicing of BSE. As educational level increases the likelihood of practicing breast self examination increases. Those under graduate female students, who heard about the importance of BSE is more likely to perform BSE than those participants who had no information about BSE. Similarly those study subjects who examined their breast monthly by themselves is more likely to practice BSE than those who did not know the frequency of performing BSE. Those under graduate female students who taken part in this study and need approval from Doctors are more likely to practice BSE than those under graduate female students who were not need any approval. Likewise, those participants who believed that BSE help to detect breast cancer earlier before it gets advanced {AOR: 0.551, 95%CI: (0.303, 0.999)} were more likely to practice BSE than their counter parts, and also those informants who were believe that BSE aid to find lump earlier {AOR: 0.303, 95%CI:(0.181, 0.747)} were more likely to practice BSE than those who did not perceive that early starting of BSE has no benefits. Additionally, fear of breast cancer and the found of palpable mass in the breast were significantly associated with practice of BSE. Those under graduate female students, who mentioned that fear of breast cancer was their reason to start BSE, {AOR: 0.26, 95% CI: (0.092, 0.731)} were more likely to practice BSE than those participants who mentioned their friends were the reason to start BSE. The found of palpable mass in the breast also has a significant association with the practice of BSE {AOR: 0.345, 95% CI: (0.159, 0.785)} in which those participants who seen palpable mass in their breast were more likely to practice BSE than those informants who replied their reason to start BSE was their friends.

Table 6.1: The association between independent variables and practice of BSE of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597)

Variables	Practice BSE in the last 12months		COR(95%CI)	AOR(95%CI)
	Yes	No		
Age				
15-19	38(24.0%)	114(25.79%)	1.00	1.000
20-24	92(59.36%)	293(66.29%)	2.143(1.14, 4.028)	2.602(1.28, 5.292)
25-29	25(16.13%)	35(7.92%)	2.275(1.294, 3.999)	3.241(1.735, 6.058)
Educational level				
First year	73(47.1%)	182(41.18%)	1.00	1.000
Second year	44(28.39%)	130(29.41%)	0.295(0.1, 0.873)	0.161(0.046, 0.566)
Third year	34(21.94%)	90(20.36%)	0.249(0.086, 0.722)	0.131(0.038, 0.447)
Fourth year	4(2.58%)	40(9.05%)	0.265(0.088, 0.796)	0.12(0.033, 0.434)
Marital status				
Ever married	15(9.68%)	37(8.37%)	1.00	
Never married	140(90.32%)	405(91.63%)	0.622(0.322, 1.204)	
Mother hood status				
Have child	9(5.81%)	29(6.56%)	1.139(0.527, 2.463)	
Have no child	146(94.19%)	413(93.44%)	1.00	
Breast cancer history in the family				
Yes	34(21.94%)	66(14.93%)	0.625(0.394, 0.991)	
No	121(78.07%)	376(85.07%)	1.00	
Heard breast is commonest in female				
Yes	117(75.58%)	282(63.8%)	0.572(0.378, 0.866)	
No	38(24.52%)	160(36.2%)	1.00	
Breast cancer is curable				
Yes	89(57.42%)	149(33.71%)	0.539(0.354, 0.82)	
No	61(39.35%)	279(63.12%)	0.89(0.542, 1.461)	
I don't know	5(3.23%)	14(3.17%)	1.00	
Heard about BSE				
Yes	129(83.23%)	213(48.19%)	0.187(0.118, 0.297)	0.381(0.218, 0.667)
No	26(16.77%)	229(51.81%)	1.00	1.00
Early detection improve chance of survival				
Yes	94(60.65%)	224(50.68%)	0.574(0.333, 0.99)	
No	41(26.45%)	135(30.54%)	0.793(0.435, 1.446)	
I don't know	20(12.9%)	83(18.78%)	1.00	

AOR (95%CI) : Adjusted odds ratio only indicated for statistically significant

Table 6.2 : The association between independent variables and practice of BSE of Natural and Computational science, Addis Ababa University, Addis Ababa, Ethiopia, 2015 (n=597)

Variables	Practice BSE in the last 12months		COR(95%CI)	AOR(95%CI)
	Yes	No		
Frequency of BSE				
Monthly	77(49.68%)	87(19.68%)	0.149(0.093, 0.238)	0.288(0.158, 0.525)
2-3 months	18(19.35%)	38(16.52%)	0.278(0.143, 0.541)	
4-6months	12(7.74%)	35(7.92%)	0.384(0.182, 0.811)	
Yearly	14(9.03%)	24(5.43%)	0.226(0.107, 0.478)	
I don't know	34(21.94%)	258(58.37%)	1.00	
BSE is necessary				
Strongly agree	110(70.97%)	257(58.14%)	0.531(0.196, 1.438)	
Moderately agree	9(5.81%)	35(7.92%)	0.884(0.262, 2.983)	
Agree	28(18.06%)	115(26.02%)	0.933(0.325, 2.681)	
Disagree	5(3.23%)	22(4.98%)	1.136(0.187, 6.889)	
Moderately disagree	2(1.29%)	10(2.26%)	0.682(0.058, 8.002)	
Strongly disagree	1(0.65%)	3(0.68%)	1.00	
BSE take too much				
Strongly agree	25(16.13%)	58(13.12%)	1.00	
Moderately agree	11(7.1%)	49(11.09%)	1.392(0.713, 2.718)	
Agree	10(6.45%)	11(2.49%)	2.673(1.19, 6.005)	
Disagree	37(23.87%)	148(33.48%)	1.747(0.973, 3.136)	
Moderately disagree	45(29.03%)	131(29.64%)	2.4(1.32, 4.364)	
Strongly disagree	27(17.42%)	45(10.18%)	0.66(0.248, 1.759)	
Need approval to practice BSE from:				
Doctors	93(60%)	263(59.5%)	0.658(0.318, 1.361)	0.344(0.139, 0.849)
Family	43(27.74%)	90(20.36%)	0.487(0.224, 1.06)	
Friends	9(5.81%)	46(10.41%)	1.189(0.441, 3.205)	
I need no approval	10(6.45%)	43(9.73%)	1.00	
Barriers perceived to practice BSE:				
Unnecessary worry	51(32.9%)	138(31.22%)	0.718(0.36, 1.432)	
Anxiety and fear	64(41.29%)	155(35.07%)	0.643(0.326, 1.265)	
Embarrassment	27(17.42%)	100(22.62%)	0.983(0.467, 2.069)	
No barriers at all	13(8.39%)	49(11.09%)	1.00	
Perceived benefits of BSE:				
Help to detect cancer earlier	101(65.16%)	278(62.9%)	0.562(0.33, 0.956)	0.551(0.303, 0.999)
Help to detect lump	32(20.45%)	66(14.93%)	0.421(0.222, 0.798)	0.303(0.181, 0.747)
No benefits I perceive	20(12.90%)	98(22.17%)	1.00	1.00
Opinion during performing BSE:				
Embarrassing	60(38.71%)	131(29.64%)	1.00	
Disgusting	21(13.55%)	97(21.95%)	2.116(1.206, 3.711)	
Very painful	40(25.81%)	157(35.52%)	1.798(1.132, 2.855)	

Cause nothing	34(21.94%)	57(12.9%)	0.768(0.455,1.296)	
Reason for starting				
BSE:				
Fear of breast cancer	33(21.29%)	10(9.71%)	0.246(0.089, 0.681)	0.26(0.092, 0.731)
Media	53(34.19%)	33(32.04%)	0.506(0.216, 1.185)	
Advice of health worker	44(28.38%)	22(21.36%)	0.406(0.166, 0.992)	
Breast pain	9(5.81%)	16(15.53%)	1.444(0.482, 4.325)	
Feeling of mass	1(0.65%)	4(3.88%)	3.25(0.323, 32.751)	
Breast cancer in the family	2(1.29%)	2(1.94%)	1.625(0.132,19.986)	
Friends	13(8.39%)	16(15.53%)	1.000	1.00
Seen palpable mass in the breast:				
Yes	38(24.52%)	10(9.71%)	0.331(0.157, 0.699)	0.345(0.159,0.785)
No	117(75.48%)	93(90.29%)	1.00	1.00

AOR (95%CI) : Adjusted odds ratio only indicated for statistically significant

8. Discussion

This institutional based cross-sectional study attempted to find out the knowledge, attitude, and practice of BSE, and its associated factors among under graduate female students in College of Natural and Computational Science in Addis Ababa University, Addis Ababa Ethiopia.

8.3. Knowledge of breast cancer and breast self examination of study subjects

This study found that 66.83% of the study participants knew that breast cancer is commonest female cancer. This is slightly higher as compared to other similar studies conducted on female students in Jordan (51.8%) (40), Tanzania (58.2%) on young adult female (44) and Angola (34.5%) on university students (42) may be due to difference in time when the research was done and effort of some organization like Mathios Wondu Cancer Association who are doing toward improving awareness of cancer. And 39.87% of the participant knew that breast cancer has hereditary tendency though 41.04% did not know that breast cancer is curable or not. The result of this study showed that only 23.79% participants knew that breast cancer is not curable while the majorities are not. Similar study in Jordan and Tanzania on female students and young adult women respectively found more than half knew that breast cancer is not curable(40, 44). This showed that the participants had no detail information about breast cancer though most of them knew that breast cancer is more common in women. The difference may be due to the fact that more concern is more given to communicable diseases than the NCDs.

Regarding to the early signs of breast cancer, most of the respondents knew at least one sign of breast cancer though pain and lump in the breast were among the predominantly mentioned by the study subjects as 18.59% and 11.56% respectively. In a similar study done in Tanzania (44) on young adult women, 51% of participants could identify some signs and symptoms of breast cancer. But there is an enormous difference seen when compared with study conducted on BSE among undergraduate female students in Mekelle University Ethiopia 79.1% and 76.1% of the study subjects associated breast cancer with lumps and pain in the breast respectively (45). This discrepancy may also be related with that fact that health education about cancer was not uniform in the country and still due to the fact that non-communicable diseases were neglected.

Concerning to the knowledge of contributing factors of breast cancer, this study found out that positive family history of breast cancer 17.76%, smoking 20.77%, and prolonged hormonal therapy 12.23% were well mentioned by study subjects as a contributing factors. On the other hand a very small percentage (5.36% and 4.69%) of the participants mentioned that early menarche and late menopause were contributing factors of the breast cancer. In comparison with similar study done in Sire Lanka on female students, positive family history (67.5%) and smoking (46.9%) were among the most commonly mentioned by participants as main contributing factors of breast cancer (39). Moreover, study done in Angola on University students showed that positive family history (55%) and prolonged hormonal therapy (11%) were among the predominantly replied by participants as main contributing factors of breast cancer (42), while in one of the study done in Ethiopia positive family history and smoking (20.8% and 71.3%) respectively were the most predominantly known by participants as a contributing factors (45). Except that the study done in Ethiopia which was almost consistent with the finding of this study the rest study mentioned above showed different. The variation may be due to difference in study area, accessibility to information, mass-media and socio-cultural factors.

This study also found that 57.29% of the participants heard about BSE and 27.47% of the informants mentioned that BSE performed on a monthly basis. Similar study in Cyprus and Cameron on University students showed that 91.5% and 74.17% of the study samples had heard about BSE respectively(4, 43). Furthermore, study done in Turkey and Cameron also identified that 39.8% and 36% of participants reported that frequency of BSE is done on a monthly basis (38, 43). This discrepancy about the information and frequency of BSE may be due to the fact that most developing countries gave less emphasis to the noncommunicable diseases like cancer and difference in accessibility to information, and also may be related with the individual variation in planning something to do to maintain health as good as possible which may come from socio-economic difference.

8.4. Attitude of participants about BSE of study subjects

Although one-third (33%) of the participants perceived that BSE is very painful, 33.33% of the study subjects believed that BSE helps to detect breast cancer as early as possible even though anxiety and fear were among the main barrier factors (36.68%) to perform BSE mentioned by the participant. In comparison with similar study done in Cyprus and Cameroon on younger

University students, in which 71% and 95% of the respondents perceived that BSE has necessary to detect any problem as early as possible respectively(4, 43), the finding of this study was slightly lower which may be lack of awareness among the participants. Similarly 53.27% of participants believe that early detection of breast cancer improve chance of survival though study done in Mekelle University Ethiopia, (79.7%) believed long time survival is possible if detected before it gets advanced (45). This discrepancy may be related with the fact that most (41.04%) of the participant did know nothing that whether breast cancer curable or not and 35.17% of participants believe that breast cancer is curable as compared to the above study which may be associated with lack of knowledge. In line with study done in Turkey that showed 45.6% of participants believe that they were not at risk of breast cancer(38) while study in Cyprus identified that 26% of informants were not believe that they are susceptible to breast cancer(4), this study found out that 57.42% did not believe that they are at risk of breast cancer. Inaccessibility to health information, socio-demographic difference and neglected NCDs may be among the reasons for the discrepancy occurred among the above studies.

8.5. Practice of BSE of study subjects

The finding of this study showed that (43.21%) of the study subjects reported that they have ever practice BSE. This was almost in line with the study from Iraq, Angola and Mekelle Ethiopia 47.5%, 38.7% and 37.2% respectively (41, 42, 45). From these participants who reported that ever practiced BSE, 60.08% practice BSE in the last 12 months. Similarly this study also found out that only 11.06% of the participants were practice BSE on a regular basis in the last 12 months. This study was almost consistent with the study done in Turkey 7% and Tanzania 14.2% (38, 44), though incomparable with the study done in Mekelle University Ethiopia 71% (45). However, this study also identified that 14.91% of the study subjects, from the total participants, practiced BSE at irregular basis in the last 12 months. This finding is almost in line with the study from Jordan 11% and Tanzania 19.1% (40, 41). This low proportion of BSE practice may be related with the fact that none communicable disease like breast cancer are not getting due attention by stakeholder of health care system and for the reason that there is no active screening program. In line with the study from Iraq 47.5% (41) the finding of this study showed that 38.94% of the respondents mentioned that they did not know the techniques to perform BSE. This slight difference may be come into viable as a result of the fact that the participant's socio-economic status, awareness and perceived barriers to practice BSE were quite different. Age,

educational level, knowledge of BSE and Doctors recommendation were among factors associated with breast self examination which was slightly in line with study done in Angola (42) and Ethiopia (45). This in fact could be due to people worry increase as age increase because of maturity and most of the time chances of acquiring disease increase as age increase.

9. Strength and Limitation

9.3. Strength

- Provides some clues about the prevalence of knowledge, attitude and practice of study subjects toward breast self examination
- Aid to identify factors become obstacles to practice breast self examination among the study subjects
- It imposes some influence on the stake holders like Ministry of Health & Policy makers to plan accordingly in reducing and preventing none communicable disease like breast cancer

9.4. Limitation

- Although this study provides an important insight about young university women's awareness of BSE, there were several limitations of the results presented. First, the nature of cross-sectional study design by itself was one of the limitations, the egg and chicken dilemma. Second, the source of data for this study was based on the self report of the respondents.
- The study was conducted among the students of College of Natural and computational Science College and therefore might not be representative to all Universities across Addis Ababa as well as general population.

10. Conclusion

Generally the finding of this study showed that 24.57% of the participants had overall knowledge about breast cancer and breast self examination while others are not knowledgeable. The average knowledge of participants, who are involved in this study, about breast cancer was 24.65%, while the overall knowledge that they had toward BSE was 24.49%. This all implies that respondents had poor knowledge since the overall knowledge that they scored was below 50%.

Regarding to their attitudes, majority of the respondents had no good attitude toward BSE while only 29.50% of the informants had good attitude about BSE. So based on the finding, it is possible to say that the study subjects had no good attitude toward practicing BSE since the overall result was below 50%.

Moreover, only few (25.96%) of the respondents have practiced BSE in the last one year, and 17.26% of the participants replied that they have practiced BSE once or more in their life time but who are not currently practicing BSE, while 56.78% have never practiced BSE. Form those participants, who were reported that they are practicing BSE in the last 12 months; only 42.58% had practice BSE on a regular basis, while the majorities (57.42%) were not.

Regarding to the factors associated with the practice of BSE, Age, Educational level, being heard about BSE, frequency of BSE, Doctors recommendation, Benefits of BSE, Fear of breast cancer and being seen palpable mass in the breast were independently associated with consistent practicing of BSE.

11. Recommendation

- Studies showed that practicing of BSE make women to be more understand of their breast and aid them to detect lumps as early as possible before it gets worst. In developing countries like Ethiopia where there is no routine mammography screening of breast due to scarce resources BSE is the best alternative screening method.
- Thus, BSE which is simple, relatively inexpensive and non-invasive should be considered as a means of screening methods. Therefore, more attention should be given than to initiate and encourage women to practice BSE.
- Since most of the university students are not knowledgeable, interventions like educational program through mass media, clinical setting, and school and population based health education programs has to be considered.
- Studies have suggested that people prefer to learn about BSE from their Doctors and other health workers. Thus, proper counseling services has to become one of the component of their health care services and given by health care workers.
- There is a need for strategies and coordinated effort at all level (family, university, community) and government aimed to improve the KAP of BSE of the young people of all age group, educational level, and cultures.
- Further study considering students from others Colleges of Addis Ababa University, other University of the country and the general population has to be done to find out the gap in knowledge; attitude and practice of breast self examination and breast cancer so that it's possible to have a clear picture of KAP of young female students about BSE.
- Accessibility of guideline on BSE would be improved and well developed in collaboration with Federal Ministry of Education and Federal Ministry of Health so that it is useful mechanism to improve their KAP toward breast self examination.

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13. Annexes I: Information sheet

My name isand I am student at Addis Ababa University. This questionnaire is designed to study the knowledge, attitude and practice toward self breast examination, and the determinant factors. The study will be conducted as a fulfillment of the requirement for the degree of Master of Public Health. The information obtained from you will be vital to accomplish the study successfully and very crucial in the prevention of breast cancer. Being providing accurate information helps in designing appropriate intervention toward breast cancer screening and prevention so that you and population at large can benefit. This study has no any immediate or long term harms to you because there is no any intervention done on you and it's based on oral response. You will be not asked to write your name, and you have the right to partially and totally not to participate in the study. Your answer will be confidential and the result will be used only for academic purpose.

14. Annex II: Questionnaire

Consent form

You have the right to take time to understand and decide whether or not to take part in the study. So please feel free to give your true and honest information. If you agree to take part or not to take part please put \checkmark on the space provided below. Put the Xs sign at the side of respected number of your choice from the given alternatives. Thank you very much for your co-operation in advance. For more information you can contact the principal investigator via 0911876074 or bikilat6@gmail.com.

Are you agreeing to complete the questionnaire? Yes_____ No_____

Part I: Socio-demographic characteristics of the respondents

Ser. No.	Question	Coding categories	Skip
101	Age	-----	
102	Educational level	First year-----1 Second year-----2 Third year-----3 Fourth year and above-----4	
103	Marital status	Single-----1 Married-----2 Widowed-----3 Divorced-----4	
104	What is your motherhood status?	I have child-----1 I have no child-----2 If you have child, age at first pregnancy_____	
105	What is your religion?	Orthodox-----1 Protestant-----2 Muslim-----3 Catholic-----4 Other-----5	
106	Your ethnicity	Oromo-----1 Amhara-----2 Tigre-----3 Gurage-----4 Other-----5	
107	Age at the first menstruation	-----	
108	Do any of your family members have history of breast cancer?	Yes-----1 No-----2	
109	Who else in the family has breast cancer?	Mother-----1 Sister(s)-----2 Grandmother-----3 Aunt(s)-----4 None of them-----5	

Part II: Question to assess knowledge of breast cancer and breast self examination

Ser. No.	Question	Coding categories	Skip
201	Have you heard of cancer of the breast as commonest female cancer?	Yes-----1 No-----2	
202	What was your source of information	Electronic Media-----1	

	If your answer is yes?	Health professionals-----2 Book or journal-----3 Other_____	
203	Do breast cancer is hereditary?	Yes-----1 No-----2 I don't know-----3	
204	Which of the following sign do you consider as a breast cancer if you detect?	Lump in the breast-----1 Discharge-----2 Pain or in the breast-----3 Change in size of the breast---4 Dimpling of the breast-----5 Ulceration of the breast-----6 Weight loss-----7 Pulling in of nipple-----8 All-----9 I don't know-----10	
205	Do breast cancer is a curable disease.	Yes -----1 No -----2 I don't know-----3	
206	Which will increase the risk of breast cancer?	Positive family history-----1 Advanced age-----2 Early menarche-----3 Late menopause-----4 No breast feeding female-----5 Smoking -----6 Having breast size-----7 Prolonged hormonal therapy----8	
207	A women who obese and a women who did not have regular physical activity may more likely to get breast cancer	Yes -----1 No -----2 I don't know-----3	
208	Are you at risk of breast cancer?	Yes-----1 No-----2 I don't know-----3	
209	Can early detection improve chances of survival? (>5years)	Yes -----1 No -----2 I don't know-----3	
210	Did you heard about breast self examination?	Yes-----1 No-----2	
211	Who should perform BSE	Female-----1 Male-----2 Both-----3	

212	At what age do you think that breast self examination has to be begun	10-12 years-----1 16-18 years-----2 19-20 years-----3 30 and above years-----4 I don't know-----5	
213	How often should BSE be performed?	Monthly-----1 Every 2-3 month-----2 Every 4-6 month-----3 Yearly-----4 I don't know-----5	
214	When should a woman with regular menstruations do BSE?	2-7 days after cessation of menses-----1 During menses-----2 I don't know-----3	
215	When should a woman with irregular menstruations do BSE?	2-7 days after cessation of menses-----1 During menses-----2 A regular day of each month---3 I don't know-----4	
216	What will be the correct position of body while performing BSE	Standing position in front of mirror or lying position-----1 While lying in chest-----2 I don't know-----3	

Part III: Questions to assess respondent's attitude toward BSE

Ser. No.	Question	Coding categories	Code
301	Breast self examination is necessary	Strongly agree-----1 Moderately -----2 Agree-----3 Disagree-----4 Moderately disagree-----5 Strongly disagree-----6	
302	Doing BSE will take too much time	Strongly agree-----1 Moderately -----2 Agree-----3 Disagree-----4 Moderately disagree-----5 Strongly disagree-----6	

303	What do you think as barriers to BSE Performance	BSE makes me worry unnecessarily-----1 Anxiety and fear-----2 Embarrassment to touch own breasts-----3 No barriers I perceived-----4	
304	From whom do you need approval of BSE Practice	Doctors recommend monthly BSE-----1 My family approves of my performing BSE-----2 from my friends-----3 from no body-----4	
305	Which benefit (s)do you perceive from BSE Performance	BSE helps detect breast cancer early-----1 Regular BSE helps find lump earlier than going to the doctor--2 No need to perform BSE, I would immediately know if something were wrong-----3	
306	Having breast removed because of cancer affect a woman's appearance and therefore can motivate women to have breast screening	Strongly agree-----1 Moderately -----2 Agree-----3 Disagree-----4 Moderately disagree-----5 Strongly disagree-----6	
307	What is your opinions about to do breast self examination	Embarrassing-----1 Disgusting-----2 Very painful-----3 Cause nothing -----4	

Part IV: Question to assess respondent's practice toward BSE

Ser. No.	Question	Coding Categories	
401	Do you practice breast self examination over the last 12 months?	Yes-----1 No-----2	
402	How often do you perform BSE in one year if your answer is yes?	10 times-----1 10 times-----2	
403	When was the last time you perform breast self examination?	Weeks ago-----1 Month ago-----2 Year ago-----3 Never practice BSE-----4	

404	What made you to start performing BSE?	Fear of breast cancer-----1 Media-----2 Doctor's advice-----3 Breast pain-----4 Advice of a health worker-----5 Nipple discharge-----6 The feeling of a mass-----7 Breast cancer in the family-----8 Encouraged by a friend-----9	
405	Have you ever seen palpable lump or mass in you breast?	Yes-----1 No-----2	
407	If you don't ever practice breast self examination what was your reason?	I don't know the techniques-----1 I afraid to touch my breast-----2 Fear of outcome-----3 Too young to practice-----4 No symptom of breast cancer-----5 No one recommend-----6	

Questionnaire Amharic version

እኔ-----እበላለሁ። ይህ መጠይቅ ግለ ጡት ምርመራ እውቀት፣ አመለካከትና ልማድ ለማጥናት የተዘጋጀ ነው። ጥናቱ የህብረተሰብ ጤና ሳይንስ ማስተርስ ዲግሪ መስፈርት ሚሚያ የሚደረግ ነው። ከእርስዎ የሚገኝ መረጃ ጥናቱን በተሳካ ሁኔታ ለማከናወንና የጡት ካንሰርን ለመከላከል በሚደረግ እንቅስቃሴ ወስጠ ጠቀሚታው የጎላ ነው። የእርስዎ ትክክለኛ መረጃ መስጠት የጡት ካንሰርን ለመለየትና ለመከላከል የሚረደ ተገቢውን መፍትሄ ለመቅረጽ የሚረዳ ነው። ጥንቱ ለይ በመስተፈዎ ምንም ዓይነት ጉዳት የለውም። በመሆኑም ስምዎን እንዲፅፉ፣ አይጠየቁም፣ ይህም መልሶ ሚስጢራዊ እንዲሆንና ለትምህርት ጉዳይ ብቻ ነው። ስለዚህ እውነተኛውንና ተገቢውን መረጃ ነፃ ሆነው ይስጡ። ከተሰጡት አማራጮች ከምርጫዎ ቁጥር ጎን ላይ የ፲ ምልክት ያስቀምጡ። ለትብብርዎ በቅድሚያ አመሰግናለሁ።

ፍቀደኝ ነዎት መጠይቁን ለመሙላት? አዎ-- ----- አይደለም-----

ክፍል 1

የጥናቱ ተካፋዮች አጠቃላይ ማህበራዊ ሁኔታ መረጃ

ተራ ቁጥር	ጥያቄ	ኮድ የተሰጠባቸው ምድቦች	ኮድ
101	ዕድሜ	-----	
102	የትምህርት ደረጃ	መጀመሪያ ዓመት ----- 1	

		ሁለተኛ ዓመት ----- 2 ሶስተኛ ዓመት እና ከዚያ በላይ -- ----- 3	
103	የጋብቻ ሁኔታ	ያላገባች ----- 1 ያገባች ----- 2 ባሏ የሞተባት ----- 3 የፈታች ----- 4	
104	የእናትነት ሁኔታዎ ምንድነው?	ልጅ አለኝ----- 1 ልጅ የለኝም ----- 2 ልጅ ካልዎት፣ የመጀመሪያ እርግዝና ጊዜ እድሜዎ -----3	
105	ሃይማኖትዎ	ኦርቶዶክስ -----1 ፕሮቴስታንት -----2 ሙስሊም -----3 ካቶሊክ -----4 ሌላ -----5	
106	ብሔርዎ	ኦሮሞ -----1 አማራ -----2 ትግሬ ----- 3 ጉራጌ ----- 4 ሌላ ----- 5	
107	በመጀመሪያ የወር አበባ ጊዜ እድሜዎ ስንት ነበር?	-----	
109	ከቤተሰቦዎ የጡት ካንሰር ታሪክ ያላቸው አሉ?	አዎ ----- 1 አይደለም ----- 2	
110	ከቤተሰቦዎ የጡት ካንሰር ያለው ማንነው?	እናት ----- 1 ይህት/ቶች----- 2 ሴት አያት ----- 3 አክስት/ቶች ----- 4	

ክፍል 2

ጡት ካንሰርና ጡት ምርመራ እውቀት ለመገምገም የቀረበ ጥያቄ

ተራ ቁጥር	ጥያቄ	ኮድ የተሰጠባቸው ምድቦች	ኮድ
201	የጡት ካንሰር የሴቶች ላይ እደምበዘ ሰምታዎ ያውቃሉ?	አዎ ----- 1 አይደለም ----- 2	
202	የመረጃ ምንጭዎ ምን ነበር?	የኤሌክትሮኒክ ሜዲያ ----- 1 የጤና ባለሙያዎች ----- 2 መጽሀፍ ወይም ጆርናል----- 3 ሌላ ----- 4	
203	የጡት ካንሰር በዘር ይተላለፋል?	አዎ ----- 1 አይደለም ----- 2	

204	ከሚከተሉት ውስጥ የጡት ካንሰር ምልክት የሆነው የትኛው ነው?	በጡት ውስጥ ያለ እጥ ----- 1 የጡት ፈሳሽ ----- 2 የጡት ህመም ----- 3 የጡት መጠን መለወጥ ----- 4 የጡት መሰርጎድ ----- 5 የጡት መቆሰል ----- 6 የክብደት መቀነስ ----- 7 የጡት ቅርፅ መለወጥ ----- 8	
205	የጡት ካንሰር የሚደን ነውን?	አዎ ----- 1 አይደለም ----- 2	
206	ከመጠን በላይ የወፈሩና መደበኛ የሆነ የአካል ብቃት እንቅስቃሴ የማያደርጉ ሴቶች በጡት ካንሰር የመያዝ እድላቸው የሰፋ ነው።	አዎ ----- 1 አይደለም ----- 2 አላውቅም ----- 5	
207	እርሰዎ የጡት ካንሰር ተጋለጭ ነዎት?	አዎ ----- 1 አይደለም ----- 2	
208	አስቀድሞ የጡት ካንሰር መወቅ በአይዎት የመቆየት እድልን ይጨምራል።	አዎ ----- 1 አይደለም ----- 2 አላውቅም ----- 5	
209	ስለራስ ጡት ምርመራ ሰምተው ያውቃሉ?	አዎ ----- 1 አይደለም ----- 2	
210	የራስ ጡት ምርመራ ማን ማድረግ አለበት ብለው ያስባሉ?	ሴት ----- 1 ወንድ ----- 2 ሁለቱም ----- 3	
211	የራስ ጡት ምርመራ የሚጀመረው በየትኛው እድሜ ይመስሎታል?	10-12 ዓመታት ----- 1 16-18 ዓመታት ----- 2 19-20 ዓመታት ----- 3 30 ዓመትና ከዚያም በላይ ----- 4 አላውቅም ----- 5	
212	የራስ ጡት ምርመራ በየስንት ጊዜ ልዩነት የሚከናወን ይመስሎታል?	በየወሩ ----- 1 ከ2-3 ወራት ----- 2 ከ4-6 ወራት ----- 3 በየዓመቱ ----- 4 አላውቅም ----- 5	
213	መደበኛ የሆነ የወር አበባ የምታይ ሴት የራስ ጡት ምርመራ ማድረግ ያለባት መቼ ነው?	የወር አበባው ከቆመ በኋላ ከ2-7 ቀናት ----- 1 በወር አበባ ጊዜ ----- 2 አላውቅም ----- 3	
214	መደበኛ ያልሆነ የወር አበባ የምታይ ሴት የራስ ጡት ምርመራ ማድረግ ያለባት መቼ ነው?	የወር አበባው ከቆመ በኋላ ከ2-5 ቀናት ----- 1 በወር አበባ ጊዜ ----- 2 በየወሩ መደበኛ ቀን ----- 3 አላውቅም ----- 4	
215	የራስ ጡት ምርመራ በሚደረግበት ጊዜ ትክክለኛው የሰውነት አቋቋም ምን መሆን አለበት?	በመስታወት ፊት ለፊት በመቆም እና በጀርባ በመተኛት -----1 በደረት በመተኛት ----- 2 አላውቅም ----- 3	

ክፍል 3

የጥናቱ ተሳታፊዎች በራስ የጡት ምርመራ ላይ ያላቸውን አመለካከት ለመገምገም የቀረበ ጥያቄ

ተራ ቁጥር	ጥያቄ	ኮድ የተሰጠባቸው ምድቦች	ኮድ
301	የራስ የጡት ምርመራ ጠቃሚ ነው	በጠም እስማማለሁ ----- 1 በመጠኑ እስማማለሁ-----2 እስማማለሁ-----3 አልስማማም -----4 በመጠኑአልስማማም-----5 በጠምአልስማማም-----6	
302	የራስ የጡት ምርመራ ማከናወን ረጅም ጊዜ ይወስዳል	በጠም እስማማለሁ ----- 1 በመጠኑ እስማማለሁ-----2 እስማማለሁ-----3 አልስማማም -----4 በመጠኑአልስማማም-----5 በጠምአልስማማም-----6	
303	የራስን ጡት ለመመርመር እንቅፈት ብሎ የሚያስቡት ምንድነው?	አልስፋለጊ ስጋት ስለምፋጥርብኝ ነው-- -----1 ጭንቀትና ፍርሀት-----2 ጡተን መንከት ስለምፈረ-----3	
304	ግለ ጡት ምርመራ ለመድረግ ከመን መረጋገጨ ይፈልገሉ?	የሐክም ትእዛዝ-----1 ከቤተሰቦቼ-----2 ከጎደኞቼ-----3	
305	ከሚካተሉት ዉስጥ የትኛውን ጥቅም ከግለ ጡት ምርመራ አገኛለሁ ብሎ የሰበሉ?	የጡት ካንሰር አስቀድሞ ለመዋቅ ይረዳኝ-----1 ሐክምቤት ከመሄድ ያድናኝ-----2 ምንም ጥቅም የለውም-----3	
306	በጡት ካንሰር ምክንያት የሴቶች ጡት መቁረጥ የሴቶችን አቋም የሚጎዳ በመሆኑ ሴቶች የጡት ምርመራ እንዲያከናውኑ ያነሳሳቸዋል	በጠም እስማማለሁ ----- 1 በመጠኑ እስማማለሁ-----2 እስማማለሁ-----3 አልስማማም -----4 በመጠኑአልስማማም-----5 በጠምአልስማማም-----6	
307	ስለ ግል ጡት ምርመራ ምን የሰበሉ	የስፈራል-----1 የስጠለል-----2 በጠም ያመል-----3	

ክፍል 4

የጥናቱ ተሳታፊዎች በራስ የጡት ምርመራ ላይ ያላቸውን ልምድ ለመገምገም የቀረበ ጥያቄ

ተራ ቁጥር	ጥያቄ	ከድ የተሰጠባቸው ምድቦች	ከድ
401	ባለፉት 12 ወራት የራስ ጡት ምርመራ አድርገው ያውቃሉ?	አዎ ----- 1 አይደለም ----- 2	
402	የራስ የጡት ምርመራ በዓመት ምን ያህል ጊዜ ያደርጋሉ?	10 ጊዜ ----- 1 10 ጊዜ ----- 2	
403	ግለ ጡት ምርመራ ለመጨረሻ ጊዜ የደረጉት መቼ ነው?	ከሰምን በፊት -----1 ከወራት በፊት -----2 ከዐመት በፊት -----3	
404	የራስ የጡት ምርመራ ማድረግ እንዲጀምሩ ያደረጉት ምንድን ነበር?	የጡት ካንሰር ፍራቻ ----- 1 መገናኛ ብዙሃን ----- 2 የዶክተር ምክር ----- 3 የጡት ህመም ----- 4 የጤና ሠራተኛ ምክር ----- 5 በጡት ጫፍ የሚወጣ ፈሳሽ ----- 6 በጡት ካንሰር የተያዘ ቤተሰብ ስላለኝ - -----7 የንደኛዬ ምክር ----- 8	
405	እስከዛሬ በጡት ውስጥ እጥ/ እብጠት ዳስሰው/ አግኝተው ያውቃሉ?	አዎ ----- 1 አይደለም ----- 2	
407	እስካሁን ድረስ የራስ የጡት ምርመራ አድርገው ካላወቁ ምክንያቱ ምንድን ነው?	ዘዴዎቼን አላውቅም ----- 1 ጡቴን መንካት እፈራለሁ ----- 2 ውጤቱን መፍራት ----- 3 ልጅ ስለሆንኩ ----- 4 የጡት ካንሰር ምልክት ስላላየሁ -- 5 ማንም ስላልነገረኝ/ ስላልሰማሁ ---- 6	