

Self breast examination practice among female students of Tropical College of Medicine, Addis Ababa

Medhanye Habtetsion^{*1}, Anteneh Mengesha², Akberet Lemlem¹ and Sintayehu Abate¹

¹ Ethiopian Public Health Institute, P.O.BOX 1242, Addis Ababa, Ethiopia

² Addis Ababa Medical College

* Corresponding author: medhanyeh@gmail.com

Abstract

Background: The breast is a very important part of female's body. Breast problems and diseases like carcinoma bring distress to women and most women would do anything in their capacity to prevent its occurrence. Worldwide, breast cancer causes 376,000 deaths and about 900,000 women are diagnosed every year. Breast self-examination is an important and cheap method for early diagnosis and treatment of breast cancer. Therefore understanding of female health science students practice towards this is indispensable to enhance its early detection and management.

Objectives: To assess the practice of breast self-examination and associated factor among female students of tropical college of medicine

Methods: Simple random sampling technique was adopted and self-administrated questionnaire was used for data collection. Data were entered in Epidata version 3.1 and analyzed using SPSS version 20.

Results: From a total of 333 respondents 58.9% of the students had the practice of breast self-examination. However, only 19% (n=62) of those who practice breast self examination do so regularly and only 27.6% (n=92) of them had the time of practice of BSE is a week after menstruation period. This finding also indicate that there were strong association between educational level with diploma nurse which were five times more likely than other backgrounds (AOR=5.35, 95%CI=2.26 to 12.70) and those who had information were nine times more likely than those didn't have information about breast self examination (AOR=8.72, 95%CI=4.36 to 17.44).

Conclusion: The study showed more than half of the study population had significant association between clinical nurse background and those who had information of breast self-examination but the level of practice were poor. This call for an attention to female's reproductive health care and a need for dissemination of information about the practice through teaching and demonstration to female health science and for non medical background students on how to practice breast self examination for early detection and prevention of breast problems especially breast carcinomas.

Introduction

Breast cancer is the most common malignant neoplasm among women. To grow, malignant breast tumors need to be fed. As the breast tumor grows, it can spread into nearby tissue. Cells can also break away from the primary or main tumor, and spread to other parts of the body. The cells spread by moving through the blood stream and/or lymphatic system. When malignant breast cells appear in a new location, they begin to divide and grow out of control again as they form other tumors. Even though the new tumors are growing in another part of the body, it is still called breast cancer (WHO 2001). Breast cancer causes 376,000 deaths a year worldwide; about 900,000 women are diagnosed every year with the disease. Breast cancer, one of the non-communicable diseases, is the most common cancer in women worldwide. It accounts for over one million of the estimated 10 million neoplasm diagnosed worldwide each year the incidence (number of new cancers) is steadily increasing. The statistics are more frightening in countries like the USA where about 184,000 new cases of breast cancer are detected annually (Cheng 2011). Breast cancer is

the most common cancer in women in most parts of the world. There is a marked variation in

geographical incidence rate. In 2000, there were 1,050,346 cases reported with 372,969 deaths from breast cancer world-wide. The incidence ranged from an average of 95 per 100,000 in more developed countries to 20 per 100,000 in less developed countries (Srsan 2012). The National Cancer Institute estimates that by age 50, one out of every 50 women will develop breast cancer. By age 80, it will rise to one in 10. If this risk is calculated over their lifetime, one in 8 women will suffer from breast cancer (Pisani et al. 2001). Breast cancer is the second leading cause of cancer deaths in women today and is the most common cancer among women. There is a marked geographical difference in the worldwide incidence of breast cancer, with a higher incidence in developed countries compared to developing countries (Harvey et al. 1997). In the United States, an estimated 569,490 deaths occurred from in 2010. Although the incidence of cancer is increasing, improvements in early diagnosis and treatment have led to significantly increased survival rates in recent years.

The number of cancer survivors has exceeded 11 million and continues to grow (WHO 2014). In Western Europe, breast cancer incidence has reached more than 90 new cases per 100 000 women annually, compared with 30 per 100 000 in eastern Africa. In contrast, breast cancer mortality rates in these two regions are almost identical, at about 15 per 100 000, which clearly points to a later diagnosis and much poorer survival in eastern Africa. This is due to a lack of knowledge about early detection and access to treatment facilities (Beiki 2012). It is estimated that the prevalence of breast cancer in women aged 15 and over in sub-Saharan Africa was 23.5 per 100,000 women in 2008. During the same period an estimated 35,427 women died from breast cancer - a crude mortality rate of 12.8 per100, 000 Women (Lawani 2008).

In Ethiopia, breast cancer is the second most often occurring cancer next to cervical cancer among women. It is estimated that around 10,000 Ethiopian women and men have breast cancer with thousands of more cases unreported as women living in rural areas often seek treatment from traditional healers before seeking help from the government health system (Haftom and Gebreamlak 2013). Although there is no cancer registry in Ethiopia clinical records shows that among the 10 top cancers seen at TikurAnbessa Radiotherapy centre breast carcinoma is the second one. By late 2008 a total of 3,634 patients had been screened, diagnosed, or treated at TikurAnbessa (Semarya 2013). In Ethiopia, carcinoma of the breast is an important public health problem and studies have reported low levels of practice of breast self examination as an important method of prevention. Breast self-examination carried out once monthly, between the 7th and 10th day of the menstrual cycle. Breast self examination is a cost-effective method of early detection of cancer of the breast especially in resource poor countries(Assefa 2011).

Breast Self Examination: is a method of practicing to finding abnormalities of the breast by her looking at and feeling each breast for possible lumps, distortions or swelling to early detection and prevention of breast Cancer. Despite the benefits associated with breast self-examination which is one of the screening methods recommended for breast cancer and an inexpensive tool that can be carried out by women themselves, few women perform it and many do not even know how to perform it. The worst aspect of the disease in Ethiopia is that there is very little or almost no complete information on any aspect of the problem. In addition, there are no control and prevention programs against the disease;

diagnosis and treatment services are very limited. The purpose of this study is to indicate the magnitude on the level of practice and associated factors among female undergraduate students of Tropical College of Medicine in Addis Ababa. The finding is important for the prevention programs because breast cancer is easier to treat the earlier it is found. An urgent need in cancer control today is to develop effective and affordable approaches to the early detection, diagnosis, and treatment of breast cancer among women living in less developed countries.

Materials and Methods

A cross- sectional quantitative study was conducted in tropical college of medicine in Addis Ababa from March to April, 2015. There were 945 female students in the college; among those 782 were first degree students in the public health and nursing department. All female students who were attending in this college were the source population and all female BSC nursing and health officer undergraduate students in Department of Health Science during study period was the study population.

Sample size was determined using single population proportion formula, assuming the proportion of self breast examination practice in Mekelle University students 71.0% (29), 95 % confidence level, 5% margin of error and 10% allowance for none response rate. The final sample size (349) was selected randomly from the sampling frame. Data collection was accomplished using self-administered questionnaire. The questionnaire was divided into two major parts, socio-demographics and practice questions.

The quality of data was assured by proper designing and pre-testing of the questionnaires in Addis Ababa medical college on 5% of participants and training were given for two data collector before the actual data collection. The data was reviewed and checked for completeness. First Data was entered into Epi Data Version 3.1 then export to SPSS version 20. Data cleaning was performed to check for frequencies, accuracy, and consistencies and missed values and variables. Descriptive statistics was done. Binary Logistic Regression analysis was used to examine association between dependent and independent variables and multivariable logistic regression was applied to control for confounder variables.

The result of the analysis was presented using tables, charts and graphs. And 95% CI, COR, AOR also presented and p value less than 0.05 were used for significant test. Ethical clearance was obtained from the Research Ethics Committee of Debre Markos

University and GAMBY medical science. A formal letter was also submitted to the studied college. Written informed consent was obtained from the study participants.

Results

From a total of 349 eligible female students, a response rate was 333 (95.4%). Their age ranges from 19 to 48 years. Among those, 68% were between 19-28 years. Around 56% of the students were single. Regarding their religion, 59% of study participants were Orthodox Christians. Respect to the level of education, 77% had diploma in clinical nurse, 16% came directly from preparatory while 7% had social science and other educational background. Close to 20% of the respondents had friends or colleague with breast cancer and 19% of them had family or relatives with breast cancer. Near to 67% respondents had regular menstrual history while 28% of them had irregular history and 2% were menopausal (Table 1).

Table 1: Socio- demographic characteristics of female students of tropical college of medicine, Addis Ababa, Ethiopia, 2015.

Variables	Frequency	Percentage
Age		
19-28	225	68
29-38	88	26
39-48	20	6
Religion		
Orthodox	197	59
Muslim	52	16
Protestant	71	21
Other	13	4
Marital Status		
Single	186	56
Married	127	38
Divorced	19	6
Windowed	1	0.3
Ethnicity		
Amhara	123	37
Oromo	94	28
Tigre	36	11
Other	80	24
Educational Background		
Nurse(Diploma)	256	77
Preparatory	54	16
Others	23	7

Breast self examination Practice: Above half (59%) of the female students claimed to have practiced of breast self examination. Out of these, 19% practiced it monthly as well as occasionally. Nearly 28% of participants perform one week after menstrual period while 17% them on the first day of mensus (figure 1).

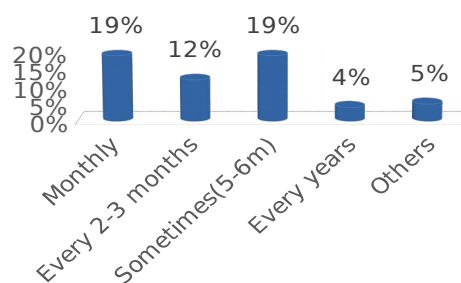


Figure 1: Frequency of BSE practice among female students of tropical college of medicine, Addis Ababa, Ethiopia, 2015.

The frequency of breast self examination among participants who had and those who had not family history of breast cancer were 19% and 81% respectively. About 77% of the participants had information about breast self examination; of them 26% and 19% received the information from their leaflets and Television, respectively. Only 5% of them used radio as a source of the information (Figure 2).

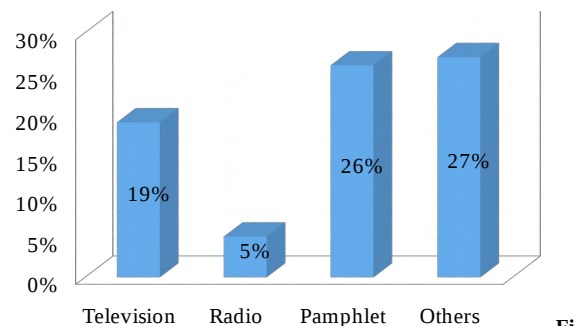


Figure 2: Source of information of BSE among tropical college of medicine female students, Addis Ababa, Ethiopia, 2015.

Table 2: Practice of BSE among female students of tropical college of medicine, Addis Ababa, Ethiopia, 2015.

Variables	Frequency	Percentage
Practice of BSE		
Yes	196	59
No	137	41
Total	333	100
Reasons for not Practicing		
Never heard	4	1.2
Embarrassing to do	2	0.6
Do not know how to do	48	14.4
Fear of finding lump	57	17.7
Do not have time	3	0.9
Forget to do	21	6.4
Unnecessary to do	1	0.2
Others	1	0.2
Total	137	41
Frequency of Practice		
Monthly	62	19
Once in every 2-3months	40	12
Sometimes(5-6 months)	62	19
Every years	14	4
Other	18	5
Total	196	59
Knowledge of BSE/level of practice		
Good	100	30
Fair	113	34

poor	120	36
------	-----	----

Forty one percent of the respondents not practiced breast self examination. Some of the reasons mentioned by the respondents were fear of finding lump (17%) and unable know how to do (14%) (Table 2). Those with Diploma nurses background were practiced five times more likely than others (AOR=5.35, 95% CI=2.26 to 12.70) and those who

had information before were nine times more likely to practice than those didn't have information (AOR=8.72, 95% CI=4.36 to 17.44). Participants those found in the age group of 29-39 years had less practice than those found in the 19-28 years of age (AOR=0.43, 95%CI=0.21, 0.87). The rest variables did not show significantly associated with the practice of breast self examination.

Table 3: factors associated with Practice of BSE among female students of tropical college of medicine, Addis Ababa, Ethiopia, 2015.

Variables	Practice of BSE		COR (95%CI)	AOR (95%CI)
	Yes	No		
Age				
19-28	115	110	1.00	1.00
29-38	65	23	0.37 (0.22, 0.64)	0.43(0.21, 0.87)
39-48	16	4	0.26 (0.09, 0.81)	0.37 (0.09, 1.53)
Marital Status				
Single	102	84	1.00	1.00
Married	79	48	0.76 (0.48, 1.22)	0.83 (0.46-1.52)
Divorced	14	5	0.44 (0.15, 1.26)	0.75 (0.18-3.15)
Widowed	1	0	0.52 (0.13, 2.09)	0.47 (0.08-2.99)
Educational Background				
Preparatory	173	83	1.00	1.00
Clinical Nurse(Diploma)	12	42	7.30 (3.65, 14.59)	5.35 (2.26-12.70)
Other	11	12	2.27 (0.96, 5.39)	2.20 (0.85-5.72)
Family with breast cancer				
No	47	19	1.00	1.00
Yes	149	118	1.34 (0.76, 2.39)	1.56 (0.73-3.35)
Information about BSE				
No	180	75	1.00	1.00
Yes	16	62	9.30 (5.04, 17.15)	8.72 (4.36-17.44)
Menstrual History				
Regular	141	91	1.00	1.00
Irregular	51	43	1.33 (0.82, 2.16)	1.40 (0.75-2.60)
Menopausal	4	3	1.18 (0.26, 5.41)	1.40 (0.14-14.41)

Discussions

With the incidence of breast cancer rising, it becomes important to assess the practice of breast self examination and associated factors in various age groups. This study involved college female health science students (aged 19-48years). Besides, being a part of a health-care providing, they can disseminate information to patients as well as family and friends. The practice of breast self examination in this group of tropical college of medicine students was more than half (59%). This was supported by a study in Mansoura University, Egypt that 52.7% of the students did practice of breast self examination (Heba et al. 2010). Other study which is in line with this study was a study conducted in Iraqi University that showed 48.3% of the respondents practice breast self examination (Alwan et al. 2012). This might be due to a progress on the awareness of non communicable disease among health science students. On the other hand, this study had better finding as compared to the studies in Qassim, Saudi Arabia (18.7%) (Saulta et al. 2006). The study done in United Arab Emirates showed only 22.7% practice breast self examination (Shatha et al. 2010) and similar study conducted in Manisa, Turkey have shown 1.5% of female performed breast self examination (Özgül et al. 2008). These disparities might be due to the level of their educational backgrounds. Those who were Diploma clinical nurses had better knowledge on how to perform breast self examination than other backgrounds and the other reason might be because most of the students in this study group could gather the information about breast self examination from

their lecture class. In contrast, some two other studies revealed that the prevalence of practicing breast self examination was higher than this study. The study conducted among nursing students of Lagos University Hospital has shown that 97.3% of the student practice breast self examination (Rosemary et al. 2011) and 71% of Mekele University students practice breast self examination (Tesfay et al. 2011). The rising of this finding might be due to those universities give attention on health education and promotion of early prevention of breast cancer in every aspect for their future health professions.

Prevalence of not practice breast self examination here was 41%. The main reasons could be lack of awareness in their preparatory backgrounds to perform (14.4%) since they never heard about the practice (1.2%). This is supported by the study conducted among high school students in Manisa, Turkey had low percentage of practicing (Özgül et al. 2008). But for those clinical nurse backgrounds the reasons was fear of finding lump (17.1%) and forget to do breast self examination (6.3%). This study indicated that 19% of the students had practice of breast self examination monthly or regularly. This is in line with studies carried out in Ahmadu Bello University Zaria, Nigeria of (19.0%) (Gwarzo et al. 2009) in Jordanian nurses, Egypt (Hadayat and Amasha 2013) which showed only 19.4% had practice of breast self examination regularly. But the finding is low report than the studies in 85.6% of nursing students of Lagos University hospital (Rosemary et al. 2011) and in 62.8% of Mekele University (Tesfay et al. 2011). This might be

because they don't remember the frequency of practicing breast self examination and most of them may have a look on their breast only during they took a shower.

Related to the time of frequency, only 27.6% of the students performed a week after menstruation period. This might be due to the fact that most of students perform it randomly or when they feel some discomforted and/or pain. Even though there was a high prevalence of the practice in this study, the level of practice is poor (36%). This is in agreement with the previous studies of Iraqi University (Alwan et al. 2012), in Mekele University (Tsfay et al. 2011) and the study conducted in University of Malaysia Sarawak (Norliza 2010). This may be because of the factor that influenced the students practice of breast self examination were not having a family history of breast cancer and no history of breast illness. Forgetfulness might be also another factor.

Conclusions and recommendations

Even the overall practice of breast self examination was higher than half, the level of practice was poor and not frequently practiced in those students. In this study, factors which are statistically significantly associated with the practice of breast self examination were educational background with diploma nurse, who had information's about breast self examination and age group of 29-39. There is a need to conduct baseline assessment on breast cancer and its ways of prevention to incorporate it into health service system and in educational curriculum.

References

- Alwan N, Al-Attar W, Eliessa R, Madfaie Z & Tawfeeq F (2012). Knowledge, attitude and practice regarding breast cancer and breast self-examination among a sample of the educated population in Iraq. *Eastern Mediterranean Health Journal*, 18(4): 337-345.
- Assefa M (2011). Assessment of types and treatment pattern of cancer in TASH Radiotherapy Center: Retrospective study. A Thesis Submitted to the School of Graduate Studies of AAU in partial fulfillment of the requirements for the Degree of Master of Science in Pharmacoepidemiology and Social Pharmacy, Addis Ababa.
- Bart JH, Anthony BM, Cornelia JB & Paul NC (1997). Effect of breast self-examination techniques on the risk of death from breast cancer. *Canadian Medical Association Journal*, 157(9): 1205-1212.
- Beiki O, Hall P, Ekbohm A & Moradi T (2012). Breast cancer incidence and case fatality among 4.7 million women in relation to social and ethnic background: a population-based cohort study. *Biomedical Centre*, 14(1):R5.
- Cheng K (2011). Effects of pain, fatigue, insomnia, and mood disturbance on functional status and quality of life of elderly patients with cancer. *Critical Reviews in Oncology/Hematology*, 78(2): 127-137.
- Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. (2012). Cancer Incidence, Mortality and Prevalence Worldwide. *International Journal of Cancer*, 136(5): E359-86.
- Gwarzo U, Sabitu K & Idris S (2009). Knowledge and practice of breast-self examination among female undergraduate students of Ahmadu Bello university zaria, northwestern nigeria. *Annals of African Medicine*, 8(1): 55-58.
- Hadayat A & Amasha D (2013). Breast self-examination and risk factors of breast cancer: Awareness of Jordanian nurses, Egypt. *Health Science Journal*, 7(3): 303-314.
- Haftom G, Tsfay H & Gebreamlak G (2014). Knowledge and Attitude towards Breast Cancer among Mekelle University Female Regular Undergraduate Students, Tigray Region, Ethiopia. *Scholars Journal of Applied Medical Science*, 2(2D):766-772
- Heba S, Nahed E, Fardos A, Ashraf S & Karima E (2013). Effects of Peer Education on the Knowledge of Breast Cancer and Practice of Breast Self-Examination among Mansoura University, Egypt Female Students. *Journal of American Science*, 9(10): 253-261.
- Lawani J (2005). Status of breast-self examination among health professionals of Abia State University Teaching Hospital. *Journal of Experimental and Clinical Anatomy*, 4(1): 55-57.
- Norliza B (2010). Knowledge and practice of self breast examination among female undergraduate students in university of Malaysia Sarawak (UNIMAS). *American Journal of Health Research*, 4(4): 104-108.
- Özgül K, Dilek Ö & Aynur Ç (2008). Awareness of breast cancer risk factors and practice of breast self-examination among high school students in Turkey. *Bio Medical Centre Public Health*, 8(359):27.
- Rosemary B, Nicholas K, Modele A, Olowoyeye A & Onajole T (2011). Knowledge, attitude and practice of breast self-examination among nursing students in Lagos University Teaching Hospital, Nigeria. *Academic Journal of Cancer Research*, 3(2):11-15.
- Saulta J, Abdullah M, Al-Saiul, A, Muzami H & Abdelgadir I (2006). Knowledge, attitude and

practices of breast self-examination among women in Qassim region of Saudi Arabia. *International Journal of Health Sciences*, 1(1): 61-70.

Semarya B, Worknesh S, Mignote H, Mesfin A & Alemseged A (2013). Assessment of Knowledge of Breast Cancer and Screening Methods among Nurses in University Hospitals in Addis Ababa, Ethiopia. *Internationally Scholarly Research Notice Oncology*. <https://doi.org/10.1155/2013/470981>.

Shatha S, Al-Sharbatti SS, Rizwana B, Elsheba M, & Mawahib A (2013). Breast Self-Examination Practice and Breast Cancer Risk Perception among Female University Students in Ajman.

Asian Pacific Journal of Cancer Prevention, 14(8):4919.

Steven SC (2009). Breast cancer as a global health concern. *Cancer Epidemiology*, 33(5): 315-318.

Tesfay H, Hailemariam B, Desta H & Haftu B (2011). Knowledge of Breast Cancer and its early detection measures among Female Students, in Mekelle University, Tigray Region, Ethiopia. *Science Journal of Clinical Medicine*, 3(4): 57-64.

WHO (2001). The UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities. Main Report WHO/ DAR/012.2.

WHO (2014). World health organization. Breast cancer: prevention and control. from <http://www.who.int/entity/cancer/detection/en/>.

