



INDO AMERICAN JOURNAL OF PHARMACEUTICAL RESEARCH



BREAST SELF-EXAMINATION PRACTICE AND ASSOCIATED FACTOR AMONG FEMALE HEALTH WORKERS AT GAMBELLA PUBLIC HEALTH FACILITIES IN GAMBELLA TOWN, SOUTH WEST ETHIOPIA: A CROSS SECTIONAL STUDY, 2019.

Dagnechew Degefu, Tesfaye Sileshi, wasihun mamushet

Mettu University, Faculty of Public Health and Medical Science.

ARTICLE INFO

Article history

Received 22/11/2019

Available online

31/12/2019

Keywords

Breast Cancer,
Breast Self-Examination,
Female Health Work.

ABSTRACT

Background: Breast cancer is the leading cause of cancer related deaths over world. Screening and early detection of disease is the cornerstone for disease prevention. Breast Self-Examination is a screening technique that involves examining ones breasts for lumps distortions or swelling. The practice when regularly done enables one to get familiar with their normal breast structure which in turn helps women to detect abnormal lumps in order to seek prompt medical assistance. Objective: To assess attitudes, practices associated factor of BSE among female health worker at Gambella public health facility Gambella Town, South West Ethiopia. Methods: Institution based cross sectional study was conducted from JANUARY to JUNE, 2019. One hundred sixteen seven health professional was recruited for the study by using total population sampling technique. A structured self-administered questionnaire was used for data collection. In addition to descriptive statistics and logistic regression analysis was applied to assess the association between dependent and independent variables of the study. Result: A total of 161 female health worker participated in the study yielding 95.83% response rate. Out of all, 61.5% of them had BSE practice, and only 42.9% had good BSE practice. Compared to female health workers who the last time performed breast self-examination one week ago, those who performed 3-6 months ago and less than a year ago had lower odds of good BSE practice, (AOR = 0.01, 95% CI: 0.00-0.07) and (AOR = 0.10, 95% CI: 0.01-0.96) respectively. Conclusion: The proportion of female health workers practicing BSE is low, so concerned bodies especially the health bureau should routinely offer training for female health workers to increase their knowledge about Breast cancer correct technique of BSE.

Corresponding author

Dagnechew Degefu

Public Health and Medical Science Faculty,

Mettu University,

Ethiopia

dengdz@gmail.com

+251911952853

Please cite this article in press as **Dagnechew Degefu et al.** Breast self-examination practice and Associated Factor among female health workers at Gambella public health facilities in Gambella town, South West Ethiopia: A cross sectional study, 2019. *Indo American Journal of Pharmaceutical Research*.2019;9(12).

INTRODUCTION

Breast self - examination (BSE) is a test that a person does by him/herself at home to check for a change or detect problems affecting the breast tissue. Breast self-examination remains the general method to raise breast health awareness and thus potentially allowing early identification of any deformities: it is free of charge, painless and easy to practice. It is advised by the American Cancer Society that females from 20 years old would have information on how to perform early BSE, especially after their menstrual cycle and consult the hospital if warning signs like new lumps, nipple discharge, and abnormal tissue in the breast (Tafa Segni, Mulu Tadesse, *et al.*, 2016).

According to the World Health Organization (WHO), cancer disease represents one of the top causes of death worldwide. In 2012, 8.2 million of people got cancer related death. With BSE 32.6 million of people were survival of breast cancer in the developing countries. In addition to that, it was reported that 1.7 million of females were detected to have Breast cancer in the same year (WHO, 2013).

The high incidence rate and high mortality rate in developed countries is due to the absence of early screening mechanisms and better management of breast cancers cases (Tafa Segni, Mulu Tadesse, *et al.*, 2016). In Africa, a high incidence was reported in our country Ethiopia, where breast cancer was on the top with an estimation of about 10,000 Ethiopian peoples with Breast Cancer (men and women), Without counting un reported thousand cases living in Rural Areas and treated by Traditional healers (Fregene Alero and Lisa, 2005).

Early identification of breast cancer can significantly improve the chance of effective management when one knows the early signs and symptoms by performing at least once month breast self-examination as is recommended in different countries. BSE at home help to detect 90 % of breast cancer whereas only 10% are detected by Clinical breast examination (CBE) and mammography (Abu-Salem OT and Hassan M, 2007). All these bring about reduction in breast cancer morbidity and mortality, but they are expensive and requires to visit the hospital and get specialized health care provider; while BSE is helpful with the advantage of being non-invasive technique, and could be carried out by the people at home (Shrivastava, Shrivastava and Ramasamy, 2013). As a matter of fact, it was confirmed that BSE performed once a month between 7th and 10th day of the menstrual cycle could reduce the risk of metastasis and increase the good prognosis when breast cancer is treated early. Special attention should be paid to enhance the possibility of early detection of change in breast tissue (Erdem and Toktas, 2016).

METHODOLOGY

Settings, study design and area

The study was conducted from April 15, to June 30, 2019 in Gambella district hospital and Gambella health center. The hospital and health center is the only district hospital in the region. It services as referral center for the patients referred to the center from health centers and private practitioners in the region. They located at Gambella town; Gambella is founded on the banks of the Baro River - Ethiopia's widest & only navigable river. Geographically, the portion of Gambella land is situated in what is known as the western lowlands. The town is a separate woreda and the capital city of Gambella people's regional state. Based on data obtained civil service Gambella region, Gambella town has a total 394 Health professional in the city 227 are men 167 women. The town has a latitude and longitude of 8°15'N 34°35'E and has an elevation of 526 meters above sea level having hot climatic condition. Gambella town is located 768 kilo meter in the south west away from the capital city of the country Ethiopia, Addis Ababa. It has five kebelles. The town harbors different ethnic groups; the majorities are Nuer and Agnuak. However, there are also other ethnic groups of Mejanger, Komo and Opo including settlers from the highland parts of the country. The health service coverage of Gambella town is 85%. There is 1 government regional referral hospital and 1 health center, 23 private clinics and 17 pharmacies that give health services.

Institution based cross-sectional study design was conducted among female health worker of Gambella public health facility, south west Ethiopia. Breast self-examination practices as well as potentially related factors are measured

Sample Size Determination

Entire population included because of small population

Sampling techniques

Total population sampling technique applied because of all study population is participate in the study

Data collection and processing

A quantitative data was collected using self-administered questionnaire. The questionnaire was prepared in English. Data collectors and supervisors' training was given by the investigators to make them familiar with the data collection tool. Pre testing was conducted on 5% of the sample size and based on the result necessary amendment were made. The investigators and supervisors were assisting and coordinating the data collectors as well as the health professionals during data collection. The questionnaire contains five parts; these are socio demographic, knowledge, attitude and practice of BSE. The collected data were reviewed and checked for completeness before data entry. Five percent of the data were double-entered in order to compare and assure the quality of the data.

Ethical Consideration

Ethical clearance was obtained from the research ethics committee of Mettu University and permission was obtained from the Gambella Regional Health Bureau and from the respondents with use of consent forms. The questionnaires were conducted in privacy by the researcher. All information obtained from each respondent was kept in confidentiality.

Limitations and strength of the study

The behavioral study outcomes are based on self-reported information. Therefore, some information may not be reported honestly and possibility of underestimation cannot be ruled out. Some sort of desirability and recall bias may not be eliminated. The lack of standardized questionnaire used to assess BSE practice may limit the comparability of the findings of this study with other studies.

RESULT

Socio Demographic Characteristics of Respondents

A total of 161 female health worker participated in the study yielding 95.83% response rate. Table 1 shows the demographic profile of the respondents. Half (50.3%) of the respondents were within the age group of 20-29, followed by respondents in age group 30-39 (32%). Majority of the respondents (77%) had diploma professional level, while (13%) of the respondents had degree level of education. In regard to the marital status of the respondents, (49.1%) of the respondents were married. Below the mean, (49.7%) of the respondents had 5-10 years of work experience. In terms of religion, above half (55.9%) of the respondents were Orthodox while (18.6%) were protestant. Only (13.7%) of the respondents affirmed that they had a history of breast cancer in their families.

Table 1: Socio-demographic characteristics of female health workers in Gambella town, South West Ethiopia, April 2019 (n = 161).

Variables	Category	Frequency	
		Number (n)	Percent (%)
Age Distribution	20-29	81	50.3
	30-39	52	32.3
	40-49	20	12.4
	>50	8	5.0
Professional level	Diploma	124	77.0
	Degree	21	13.0
	Masters	9	5.6
	Others	7	4.3
Experience in years	< 5 Years	53	32.9
	5-10 Years	80	49.7
	11-15 Years	14	8.7
	>15 Years	14	8.7
Marital status	Single	51	31.7
	Married	79	49.1
	Divorced	17	10.6
	Widowed	8	5.0
Religion	Separated	6	3.7
	Orthodox	90	55.9
	Muslim	27	16.8
	Protestant	30	18.6
	Catholic	4	2.5
	Jehovah	5	3.1
Family history BCA	Adventist	5	3.1
	Yes	22	13.7
	No	139	86.3

Knowledge of Respondents Regarding Breast Self-Examination

Based on this, study only 26.7% had adequate knowledge towards BSE the majority 72.3% had inadequate knowledge towards BSE. Forty one (25.5%) reported that breast cancer is not communicable and thirty eight (23.6%) of the female health worker reported that females are more affected by breast cancer than males and the 41 (25.5%) reported that a girl should perform regular BSE once every month. and 55(34.2) % respondents report that BSE is important to detect early breast cancer and promote treatment.

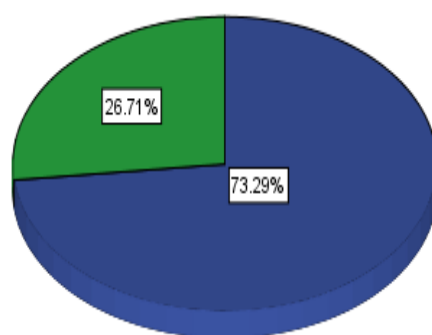


Figure 1: Breast self-examination knowledge among female health workers in Gambella town, South West Ethiopia, 2019 in Gambella town, South West Ethiopia, April 2019.

Table 2: Knowledge of respondents regarding breast self-examination in Gambella town, South West Ethiopia, April 2019.

Variables	Category	Frequency	
		Number	Percent (%)
Breast cancer is communicable disease?	Yes	40	24.8
	No	41	25.5
	I don' t know	80	49.7
Female are more affected than male	Yes	38	23.6
	No	53	32.9
	I don' t know	70	43.5
Breast self-examination is expensive?	Yes	59	36.6
	No	43	26.7
	I don' t know	59	36.6
BSE is important to detect early breast cancer and promote treatment?	Yes	55	34.2
	No	40	24.8
	I don' t know	66	41.0
A girl should start breast self-examination at age of 30 years.	Yes	41	25.5
	No	62	38.5
	I don' t know	58	36.0
Both inspection and palpation are technique of BSE	Yes	56	34.8
	No	38	23.6
	I don' t know	67	41.6
We can look breast lump during breast self-examination?	Yes	47	29.2
	No	41	25.5
	I don' t know	73	45.3
Knowledge level	Adequate Knowledge	43	26.7
	Non-adequate Knowledge	118	73.3

Attitude of Respondents Regarding Breast Self-Examination

Regarding attitude of female health worker towards BSE, almost half (49.7%) had positive attitude towards BSE while (50.3) % had negative attitude towards BSE.

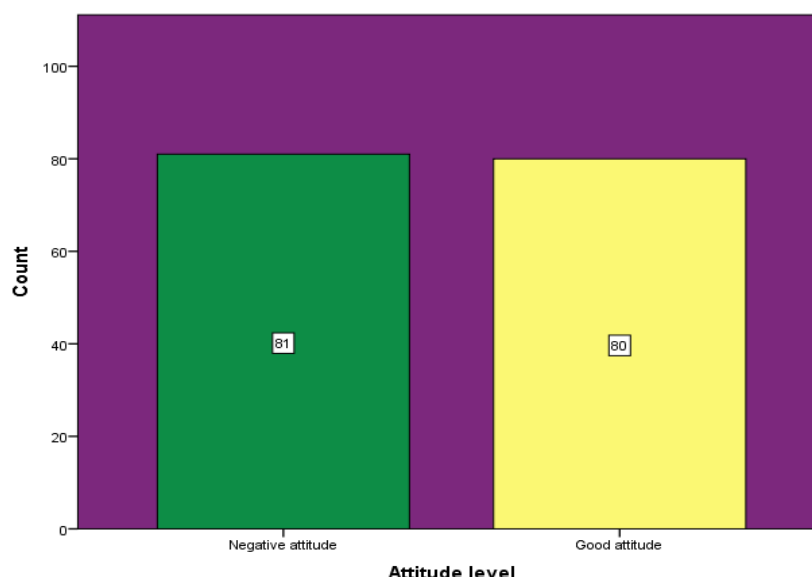


Figure 2: Breast self-examination attitude among female health workers in Gambella town, South West Ethiopia, 2019 in Gambella town, South West Ethiopia, April 2019.

Among the study participants, only 23.0% agree on BSE regularly and correctly is important to detect the disease at earlier stage. About 34 (21.1%) strongly agree BSE can improve chance of survival by detecting breast cancer and only 11 (6.8%) strongly agree on usefulness of examining breast regularly. About (10.6%) of the study participant agree to not difficult for me to remember to do regular BSE every month.

Table 3: Attitude of respondents regarding breast self-examination in Gambella town, South West Ethiopia, April 2019.

Variables	Category	Frequency	
		Number (n)	Percent (%)
Attitude level	Negative attitude	81	50.3
	Good attitude	80	49.7
Practicing BSE regularly and correctly is important to detect the disease at earlier stage	Strongly agree	37	23.0
	Agree	30	18.6
	Neutral	36	22.4
	Disagree	27	16.8
	Strongly Disagree	31	19.3
By detecting breast cancer through BSE, I can improve my chance of survival	Strongly agree	34	21.1
	Agree	20	12.4
	Neutral	26	16.1
	Disagree	32	19.9
	Strongly Disagree	49	30.4
I believe it is very useful to examine my breasts regularly	Strongly agree	11	6.8
	Agree	18	11.2
	Neutral	17	10.6
	Disagree	48	29.8
	Strongly Disagree	67	41.6
It is not difficult for me to remember to do regular BSE every month	Strongly agree	17	10.6
	Agree	19	11.8
	Neutral	18	11.2
	Disagree	47	29.2
	Strongly Disagree	60	37.3

Practice of Respondents Regarding Breast Self-Examination

The table below shows the practice of the respondents (Table 3). Out of all, (61.5%) of them had poor BSE practice, and only (42.9%) of them had good BSE practice. Most of whom (50.3%) started performing BSE when they were above 20 years of age while (11.2%) started at less than 20 years of age. Only (18%) of the respondents had ever been trained, (6.2%) of these had been trained by non-governmental organization. Among those respondents who get refreshment information on BSE, 26.7% get from Radio & television, 21.1% them from magazine & news and 10.6% internet. Only 18.0% of respondents performed BSE mostly while in front of mirror and 16.1% are performing lying on the bed. From practicing respondents only 16.8% perform BSE 5-7 days after menses.

Table 4: BSE practice of female health workers in Gambella town, South West Ethiopia, April 2019.

Variables	Category	Frequency	
		Number (n)	Percent (%)
BSE practice	Poor practice	30	18.6
	Good practice	69	42.9
Ever performed BSE?	Yes	99	61.5
The reason for not performing	No	62	38.5
	I do not know how to do it	20	12.4
	I do not have any symptoms		
	I do not think it is important		
	I do not believe in the efficacy	26	16.1
	others	10	6.2
		3	1.9
		9	5.6
How often you practice BSE	Once in a week	12	7.5
	Once in a month	57	35.4
	Once in a 3 month	15	9.3
	When it comes to mind	15	9.3
Training on BSE	Yes	29	18.0
	No	130	80.7
If yes, who trained you	Government health office	7	4.3
	Non-government org (NGO)	10	6.2
	At medical school	9	5.6
	Other	3	1.9
Age started practicing BSE	Less than 20years	18	11.2
	More than 20years	81	50.3
The Sources of refreshment information on BSE for practicing	magazine & news	34	21.1
	Radio & television	43	26.7
	Internet	17	10.6
	Other specific	5	3.1
Where do you perform BSE?	In front of mirror	29	18.0
	Lying on the bed	26	16.1
	In the bathroom	28	17.4
	Other	16	9.9
When do you perform BSE?	5-7 days after menses	27	16.8
	When it comes to my mind	19	11.8
	Anytime during menses	12	7.5
	Regular day of each month	40	24.8

Out of the 161 respondents, 61 of them never perform breast self-examination. The commonest reason for not performing was that I don't have any symptom (38.24%), closely followed by not perform due to I do not know how to do it (29.4%). Ten (14.71%) of them answer I do not think it is important while 9 (13.24%) of them has other reasons. Only 3 (4.41%) of the respondents do not believe efficacy on performing breast self-examination (figure 2).

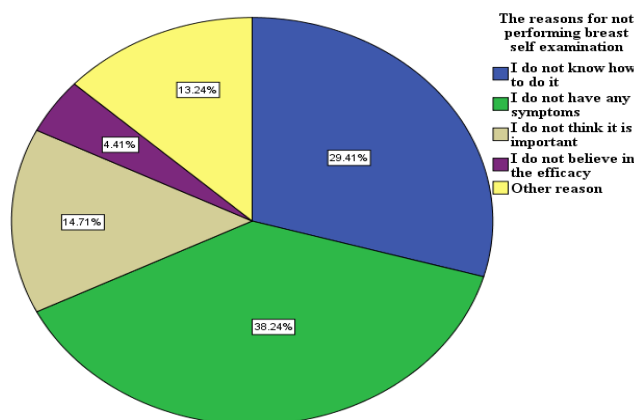


Figure 3: Reasons for not performing breast self-examination among female health workers in Gambella town, South West Ethiopia, 2019 in Gambella town, South West Ethiopia, April 2019 (n= 61).

Factors Associated With Breast Self-Examination Practice

To determine the association between good practice of breast self-examination and explanatory variables bivariate and multivariate analyses were performed using logistic regression.

Bivariate analysis of independent variables associated with the practice of BSE

The result from bivariate indicates that there is association between good practice of breast self-examination and some of the explanatory variables under the study such as respondent family history of breast cancer, being trained to conduct breast self-examination, and get last Sources of refreshment information on BSE. Accordingly, the odds of good practice of breast self-examination were 2.72 times (COR = 2.72; 95% CI: 0.73, 10.14) higher among participants who had family history of breast cancer as compared to their counterparts. Whereas lower odds of good practice of breast self-examination were found among respondents who had not been trained to conduct breast self-examination (COR = 0.53, 95% CI: 0.19-1.49). The lower odds of good practice of breast self-examination were observed among respondents who get last Sources of refreshment information on BSE Radio & television (COR = 0.21, 95% CI: 0.04-1.05), Internet (COR = 0.01, 95% CI: 0.00-0.07) and other specific (COR = 0.10, 95% CI: 0.01-0.96) compared to those who the last time performed breast self-examination a week ago (Table 4).

Multivariable logistic regression of factors associated practice breast self- examination.

In multivariable logistic regression analysis, family history of BCA and the last Sources of refreshment information on BSE were statistically significant at 5% level of significant and were found to be the sole predictor of good practice of breast self-examination. Those participants with family history of BCA are 3.93 times (AOR = 3.93, 95% CI: 1.52-6.33) more likely to have good family history of BCA compared to their counterparts. Compared to female health workers who get the last Sources of refreshment information on BSE from Internet, those who are not specific had lower odds of good BSE practice, (AOR = 0.01, 95% CI: 0.00-0.07) and (AOR = 0.10, 95% CI: 0.01-0.96) respectively.

Table 5: Factors associated with good breast self-examination practice of female health workers in Gambella town, South West Ethiopia, April 2019.

Covariates	Category	BSE Practice		Crude OR (95% CI)	Adjusted OR (95% CI)
		Poor	Good		
Family history of BCA	Yes	3	16	2.72 (0.73-10.14)	3.93 (1.52-6.33)*
	No	27	53	1.00	1.00
Training on BSE	Yes	6	22	1.00	1.00
	No	24	47	0.53 (0.19-1.49)	0.56 (0.15-2.10)
The last Sources of refreshment information on BSE?	magazine & news paper	2	31	1.00	1.00
	Radio & television	10	33	0.21 (0.04-1.05)	0.21 (0.04-1.05)
	Internet	2	15	0.01 (0.00-0.07)	0.01 (0.00-0.07)*
	Other specific	2	3	0.10 (0.01-0.96)	0.10 (0.01-0.96)*

*p-value < 0.05; BSE= breast self-examination, OR = odds ratio; CI = confidence interval; statistically significant variables in binary logistic regression models were adjusted for each other under the multivariate logistic regression models.

DISCUSSION

Breast self-examination (BSE) is an important and inexpensive method for early detection of breast cancer. Breast cancer is leading cause of death among women in less developed countries. The only way to control this disease is early detection (Torre et al., 2015). The best way for early detection of breast cancer is screening, and the best accessible way of screening is breast self-examination (BSE). Considering this fact, female health workers are responsible for self-care; in addition they can encourage the clients and help them to improve healthy behaviors regarding BSE. Therefore, this study aim is to explore the level of practice of Breast Self-Examination and associated factor among female Health worker at Gambella public health facility.

Knowledge toward Breast self-examination

This study tried to assess knowledge of breast self-examination among female health workers in Gambella town, South West Ethiopia, 2019 in Gambella town, South West Ethiopia. Eighty three (26.7%) of the respondents have Adequate Knowledge towards breast self-examination. A cross-sectional study done among female medical students in Adama health science and technology university, Ethiopia showed that only (8.7%) of the study participants had good knowledge of breast self-examination (Segni T.M et al., 2016). This significant difference may be attributed to the difference due to female health worker had more information from work and training the students.

Another study carried on female health professional at Addis Ababa university hospital found out that 202(74.8%) had knowledge of breast self-screening. This is significantly different from the result found in this study. Female health worker in capital city and university teaching hospital better to get training and likely to know about screening more than female health worker live and work in the other regions (Lemlem BS et al., 2013). This study also found out the participants with good knowledge (25.6%) is less than the figures found for a study conducted in rural area of turkey 76.6 % (Dündar EP, 2006).

Attitude toward breast self-examination.

This study showed that (50.3%) of respondents had positive attitude towards breast self-examination. The study carried out in Kellem and Horro Guduru Wollega zones, on female health professional showed that 58.2% of the study participants had positive attitude towards breast self-examination (Negeri et al., 2017). The gap might be due to the difference in the study area.

Another study conducted Nigeria in 2008 showed that from 100 health workers, (92%) positive attitude (Oluwole OC, 2008). This difference may be due to the level of knowledge between Nigerian health workers and health students in our case and in other way the sample size taken Nigeria was small compared to our study.

A cross-sectional study conducted in south west Cameroon, to assess knowledge, attitude and practice of breast self-examination, showed that 88% of students perceive breast self-examination as an important method in the early detection of breast cancer (Nade Fon Peter et al., 2015). In contrast, 50.4% of the study respondents believe that doing breast self-examination helps to identify breast normal and abnormal tissue at early stages. The gap might be the study participant in Cameroon was student and the study respondents of this were women of reproductive age group in community and the student might be get information from school, friends and from media than women in a community. So community awareness creation should be needed for early detection of breast cancer.

Practice toward breast self-examination

Concerning the respondent's practice of breast self-examination, this study found that 42.9% of them had good practice of breast self-examination. Similar finding (42%) was found in a study in Jimma (Fitsum D et al., 2018). A study conducted in Kampala district found that 58% of respondents claimed good practice BSE. Possibly, this difference could be attributed to difference of the study areas and populations, as well as because participants in the latter study were more trained on BSE (Maggie 2015). On the other hand, good practice of breast self-examination in this study is higher than the study in Ambo town (20.7%) among undergraduate regular female students and in Adwa town (6.25%) among women attending public health facilities (Natae S.F 2017, Abay M 2018). This is might be due to participants in this study were health workers while in the latter study, they were undergraduate regular female students and women attending public health facilities, respectively.

This study found out the study participants, 16.8% performed BSE at the right time of 5-7 days after menstruation. Studies in Tikur anbessa specialized referral Hospital and at St.Paulos General Hospital showed that 51.5% of respondents practiced breast self-examination monthly 5-7 days after menses (Lemleme et al 2012).

The difference may be due to study participant in university hospital were nurses and have knowledge on screening methods from experience and training and they know time how often to practice breast self-examination than this female non-teaching area health worker study participant. So, for awareness creation at different level were needed and especially the health facility should make horizontal experience sharing give taught on the techniques how to practice BSE and when to practice and how often to practice breast self-examination.

In this study the main reasons for not practicing BSE as explained by participants were not having breast problem at 16.1%, at I do not know how to do it 12.4%, don't know the importance at 6.2%, and the rest 10.6% don't know the importance of BSE. Similarly, in the study carried out in Buea, Cameroon the number one reason for not performing BSE was having no sign of breast cancer at 36.7% (Nade Fon Peter et al., 2015). Another studies conducted in Mekele, Gojam, Ethiopia also showed that the main reasons for not performing breast self-examination were having no breast problem, not knowing breast self-examination technique, not knowing the importance of breast self-examination and absence of breast symptoms or disease (Iaggesse et al., 2014, azege et al., 2013).

Factors associated with BSE practice

After adjusting for potential confounders using backward likelihood logistic regression method, family history of BCA and the last sources of refreshment information were statistically significant at 5% level of significant and were found has significant association of practice of breast self-examination.

In this study, the professionals who have personal history of breast cancer were significantly associated with good practice of breast self-examination. (AOR = 3.95, 95% CI: 1.52-6.33) In addition, women with a positive family history of breast cancer had higher frequency of BSE than those with a negative family history. Across-sectional study was conducted in young Malaysian women to assess practice towards breast self-examination showed that family history of breast cancer significantly associated the practice of BSE ($p=0.017$). (Al-NaggarAR et al 2011). This could be due to their exposure with the patient and cancer specialized professionals and advise on BSE in noticing any change at early stage.

Across-sectional study was conducted in young Malaysian women to assess practice towards breast self-examination showed that family history of breast cancer significantly associated the practice of BSE ($p=0.017$). (Al-NaggarAR et al 2011).

Across-sectional study was conducted in united Arab Emirates, from April 2011 to June 2012, to assess breast cancer awareness among female university students in Ajman. From a total of 392 students participated on study, family history of breast cancer was reported by 36 (9.2%). Regarding methods for early detection of breast cancer, only 69 (17.6%) correctly identified mammography as a methods for early detection of breast cancer and 46.2% and 55.9% BSE and clinical breast examination respectively. The majority of the study participants, 98% did not have any knowledge regarding the recommended frequency of BSE. (Al-Sharbatti SS et al., 2014). Relative to female health workers who get the last Sources of refreshment information on BSE, from internet and other non-specific source, (AOR = 0.01, 95% CI: 0.00-0.07) and (AOR = 0.10, 95% CI: 0.01-0.96) respectively. Another study conducted in Nigeria among female worker in teaching hospital gets refreshments information had significant association with practice of breast self-examination. This could be because of they get refreshment information on breast self-examination, the better they would had good BSE practice.

CONCLUSION AND RECOMMENDATION

Conclusion

Self-Examination (BSE) is a technique in which a woman examines her own breasts by seeing and feeling with fingers to detect breast lump. The purpose of breast self-examination is to increase familiarity with breast, to detect presence of lump in the breast at an early stage and to look for any abnormal changes in the breast.

Based on this study, 42.9% of participants had good practice of breast self-examination. Only 26.7% had adequate knowledge towards BSE while almost half (49.7%) had positive attitude towards BSE. Getting refreshment information on breast self-examination and family history of breast cancer were the factors found associated with BSE practice. There is very urgent need for regular update continuous education for health professionals concerning with breast self-examination importance and procedures.

ACKNOWLEDGEMENT

I would like to thank staff of Mettu University Public Health Department for their constructive comments and ideas. I extend my appreciation to my mother Sinkenesh bekele and my wife Sinemagnesh Deresa with my son Amen Dagnechew, for their invaluable lifelong moral support. I am highly thankful to Gambela Health Bureau for providing me support letter, to the Gambela Regional Hospital and Gambela town health center. At the last but not the least, I highly thank the data collectors, supervisors, study participants, and questionnaire translators without whom the research would not be done.

Conflicts of Interest

No conflicts of interest.

REFERENCES

1. Abolfotouh, M. A., Banimustafa, A., Mahfouz, A. A., Al-assiri, M. H., Al-Juhani, A. F. and Alaskar, A. S. (2015) „Using the health belief model to predict breast self examination among Saudi women”, *BMC Public Health*. BMC Public Health, 15(1163), pp. 1–12. doi: 10.1186/s12889-015-2510-y.
2. Abu-Salem OT, A. and Hassan M, A. (2007) „Breast Self-Examination among Female Nurses in Jordan.”, *Shiraz E-Medical Journal*, 8(2), pp. 51–57.
3. Abay et al. Breast self-examination practice and associated factors among women aged 20– 70 years attending public health institutions of Adwa town, North Ethiopia. *BMC Res Notes* (2018) 11:622. <https://doi.org/10.1186/s13104-018-3731-9>
4. Akhtari-zavare, M., Latiff, L. A., Juni, M. H., Said, S. M. and Ismail, I. Z. (2015) „Knowledge of Female Undergraduate Students on Breast Cancer and Breast Selfexamination in Klang Valley , Malaysia”, *Asian Pacific Journal of Cancer Prevention*, 16(15), pp. 6231–6235. doi: <http://dx.doi.org/10.7314/APJCP.2015.16.15.6231>.
5. Al-Naggar, R. A., Al-Naggar, D. H., Bobryshev, Y. V., Chen, R. and Assabri, A. (2011), „Practice and barriers toward breast self-examination among young Malaysian women”, *Asian Pacific Journal of Cancer Prevention*, 12(5), pp. 1173–1178.
6. Amasha, H. A. (2013) „Awareness of Breast Cancer Risk Factors and Practice of Breast Self-Examination among Nurses in Jordan”, *Med. J. Cairo Univ*, 81(2), pp. 177–183. Available at: www.medicaljournalofcairouniversity.net. Amasha, H. A.-R. (2013) „Breast self-examination and risk factors of breast cancer: Awareness of Jordanian nurses”, *Health Science Journal*, 7(3), pp. 303–314.
7. Azage, M., Abeje, G. and Mekonnen, A. (2013) „Assessment of Factors Associated with Breast Self-Examination among Health Extension Workers in West Gojjam Zone , Northwest Ethiopia”, *International Journal of Breast Cancer*, 2013, p. 6. doi:<http://dx.doi.org/10.1155/2013/814395>.
8. Erdem, Ö. and Toktas, I. (2016) „Knowledge , Attitudes , and Behaviors about Breast Self- Examination and Mammography among Female Primary Healthcare Workers in Diyarbak Jr , Turkey”, *BioMed Research International*, p. 6. doi:<http://dx.doi.org/10.1155/2016/6490156>.
9. Foster, R. S. and Costanza, M. C. (1984) „Breast Self-Examination Practices and BreastCancer Survival”, *BSE and Survival*, 53(4), pp. 999–1005.
10. Fregene Alero, N. and Lisa, A. (2005) „Breast cancer in sub-Saharan Africa: How does it relate to breast cancer in African-American women?”, *American cancer society*, 103(8), pp.1540–1548. doi: 10.1002/cncr.20978.
11. Fitsum Desta, Abdulhalik Workicho, Alemayehu Atomsa, Desta Workneh, Bosena Tebeje. Knowledge, Practice and Associated Factors of Breast Self Examination Among Female Students of the College of Public Health and Medical Science, Jimma University, Ethiopia. *American Journal of Health Research*. Vol. 6, No. 2, 2018, pp. 44-50. doi: 10.11648/j.ajhr.20180602.12.
12. Grove, K. S., Burns, N. and Jennifer, G. (2013) *The practice of nursing research: Appraisal, Synthesis, and Generation of Evidence*. 7th ed. St. Louis, Missouri. Holwerda, V. L. (2000) *The Health Belief Model and Self Breast Examination in Nurses*. Grand Valley State University. Available at: <http://scholarworks.gvsu.edu/theses>. LoBiondo-Wood, G. and Haber, J. (2014) *Nursing Research: Methods and Critical Appraisal for Evidence-Based Practice*. Mosby.
13. Maggie A. Knowledge, attitudes and practices of women on breast cancer and breast self examination in Kisaasi, Kawempe division: A cross sectional study. Unpublished dissertation at Makerere University. 2015.
14. National Breast Cancer Coalition (2011) *Breast Self-Exam : Position Statement*.
15. Natae S.F. Assessment of Knowledge, Attitude and Practice of Breast Selfexamination among Ambo University Undergraduate Regular Female Students. *Journal of Medicine, Physiology and Biophysics*.32: 9-17, 2017
16. Ndikubwimana, J., Nyandwi, J. B., Mukanyangezi, M. F. and Kadima, J. N. (2016) „ Breast Cancer and Breast Self-examination : Awareness and Practice among Secondary School Girls in Nyarugenge District , Rwanda”, *International Journal of Tropical disease and Health*, 12(2), pp. 1–9. doi: 10.9734/IJTDH/2016/22601.
17. Odwan, M. I. AL, Khreisat, I. F., Khreisat, A. F., Khasawneh, A. AL and Sqour, R. AL (2016) „Knowledge Attitude and Practice of Breast Self Examination among Female Graduates in Princess Muna College of Nursing and Royal Medical Services College of Allied Health Professions”, *Journal of the Royal Medical Services*, 23(4), pp. 41–53. doi: 10.12816/0032200.
18. Okolie and Virginia, U. (2012) „Breast self examination among female undergraduates in Enugu , Southeast , Nigeria”, *International Journal of Nursing and Midwifery*, 4(1), pp. 1–7. doi: 10.5897/IJNM11.038.
19. Oladimeji, K. E., Tsoka-gwegweni, J. M. and Igboekwe, F. C. (2015) „Knowledge and Beliefs of Breast Self- Examination and Breast Cancer among Market Women in Ibadan, South West ”, 339, pp. 1–11. doi: 10.1371/journal.pone.0140904.
20. Polit, D. F. and Beck, C. T. (2014) *Essentials of Nursing Research: Appraising Evidence for Nursing Practice*. 8th ed. Wolters Kluwer Health | Lippincott Williams & Wilkins. All. Polit, F. D. and Beck, T. C. (2010) *Essentials of Nursing Research: Appraising Evidence fo Nursing Research*.
21. Rebar, R. C., Gersch, J. C., Manacnee, L. C. and McCabe, S. (2011) *Understanding Nursing Research: Using Research in Evidence-Based Practice*. Third Edit. Wolters Kluwer/Lippincott Williams & Wilkins. Sujindra and Elamurugan: KAP of Breast self-examination *International Journal of Educational and Psychological Researches / Vol 1 / Issue 2 / April-June 2015*.
22. Shrivastava, S. R., Shrivastava, P. S. and Ramasamy, J. (2013) „Self Breast Examination : A Tool for Early Diagnosis of Breast Cancer”, 1(6), pp. 135–139. doi: 10.12691/ajphr-1-6-2. Tafa Segni, M., Mulu Tadesse, D., Amdemichae, R. and Fekadu Demissie, H. (2016) „Breast Self-examination : Knowledge , Attitude , and Practice among Female Health Science Students at Adama Science and Technology University ”, *Gynecology & Obstetrics*, 6(4), pp. 3–6. doi: 10.4172/2161-0932.1000368.
23. Tastan, S., Iyigün, E., Ayse, K. and Unver, V. (2011) „Health Beliefs Concerning Breast Self-examination of Nurses in Turkey”, *Asian Nursing Research*, 5, pp. 151–156. doi: 10.1016/j.anr.2011.09.001.

24. Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J. and Jemal, A. (2015) „Global Cancer Statistics , 2012“, *CA CANCER J CLIN*, 65(2), pp. 87–108. doi: 10.3322/caac.21262.
25. Wasileh, P. and Mikhail, B. I. (2001) „Factors Associated with Breast Self-Examination Among Jordanian Women“, *Public Health Nursing*, 19(4), pp. 263–271. WHO (2013) *Latest world cancer statistics Global cancer burden rises to 14 . 1 million new cases in 2012 : Marked increase in breast cancers must be addressed.*, International Agency for Research on Cancer, World Health Organization. doi: 223.
26. World health Organization (2014) „Germany - Country profiles 2014“, p. 156. http://www.breastcancer.org/symptoms/testing/types/self_exam/bse_steps Retrieved from on 4th June 2016.
27. Zeru Y, Sena L, Shaweno T. Knowledge, Attitude, Practice, and Associated Factors of Breast Cancer Self-Examination among Urban Health Extension Workers in Addis Ababa, Central Ethiopia. *Journal of Midwifery and Reproductive Health*. 2019; 7: 1-11



54878478451190912



Submit your next manuscript to **IAJPR** and take advantage of:

Convenient online manuscript submission

Access Online first

Double blind peer review policy

International recognition

No space constraints or color figure charges

Immediate publication on acceptance

Inclusion in **Scopus** and other full-text repositories

Redistributing your research freely

Submit your manuscript at: editorinchief@iajpr.com

