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BREAST SELF-EXAMINATION PRACTICE AND ASSOCIATED FACTORS AMONG FEMALE HEALTHCARE PROFESSIONALS AT DIRE DAWA ADMINISTRATION, EASTERN ETHIOPIA

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ABSTRACT
Background: Breast cancer is the most frequently diagnosed cancer in women worldwide. An estimated 521,900 breast cancer deaths occurred in women in 2012. Breast Self-Examination (BSE) is the recommended method for screening and early detection in developing countries because it is easy, convenient, private, safe, and requires no specific equipment. However, the practice of BSE is low and varies in different countries. **Objective:** To assess level of self-breast examination practice and associated factors among Female healthcare workers (HCWs) found in Dire Dawa from March 1 to March 30, 2017. **Methods:** Facility based cross-sectional study design was conducted among 387 female HCWs. Structured self-administered questionnaire was used after informed consent obtained from the participants. Binary logistic regression was used and significant variables were further adjusted using multivariate analysis. A *p*-value <0.05 was considered as level of significance. **Result:** The overall level of BSE practice in this study was 38.2%. Female HCWs with higher education status, high clinical experience, positive attitude and good knowledge were significantly associated with BSE practice. This study showed that female HCWs had a good knowledge and positive attitude towards BSE but their regular practice of BSE was low. Effective health education campaigns will be needed to elucidate the risk factors and prevention of breast cancer not only to nurses, but also the public at large. Strengthening service delivery at the provider and facility level to improve prompt access to effective breast cancer diagnostic and treatment services.

KEYWORDS: Breast cancer, breast self-examination Practice, Female HCWs, Dire Dawa Ethiopia.

INTRODUCTION
Breast cancer is a disease which happens as result of the erratic growth and proliferation of cells that originate in the breast.[1] It is the leading cause of cancer death among women in developing countries and the second leading cause of cancer death (following lung cancer) among women in developed countries.[2] Globally, an estimated 521,900 breast cancer deaths occurred in women in 2012.[3]

African countries (15% of world population) represent 8% of the total new breast cancer cases, but 12% of deaths because of poor survival due to late stage at diagnosis and limited treatment.[4] 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.[5] The findings of a study at Tikur Anbessa Specialized Hospital Radiotherapy Center showed that breast cancer is the second most prevalent malignancy accounting for 27.8% of all cancer cases referred to the hospital.[6]

Although breast cancer is serious disease that could lead to death, if detected early, it can be successfully treated.[7] The common sign and symptoms of breast cancer is lumps or mass in the breasts, other possible signs include, change in size and shape of breasts, unusual fluid discharges from nipple, nipple retraction, pain on the breast or nipple, redness and thickening of the nipple or breast or breast skin, skin irritation or dimpling.[8]

Since the cause of breast cancer is uncertain adequate primary prevention is not possible. Thus early detection measures remain the first priority for national health promotion programmers.[9] The recommended screening methods for early detection of breast cancer are mammography, clinical breast examination and breast self-examination (BSE).[10] The BSE technique involves palpation of the breast for lump with the tips or pads of the fingers. This could be performed while the women is sitting down, standing or lying down. BSE carried out at the age of 20 once-monthly, between the 7th and the 10th day of the menstrual cycle.[11,12]

BSE is lowering breast cancer mortality and it's important in resource poor countries like Ethiopia in promoting breast lump awareness to encourage women to seek health advice, to trigger action and enter into care sooner.[13] It is a cost-effective method of early detection of cancer of the breast especially in resource poor countries.[14]

The rationale behind extending BSE practice as a screening test is the fact that more than 90% of cases of breast cancer can be detected by women themselves, stressing the importance of BSE as the key breast cancer detection mechanism.[15,16] Early detection and diagnosis can greatly increase chances for successful treatment and thus increasing awareness of the possible warning signs of the disease among the general public is a necessity.[17]

In spite of the fact that BSE is a simple, quick and cost-free procedure, the practice is low and varies in different countries. Practice and knowledge about BSE vary among communities and population groups worldwide. Patients in communities with high level of awareness usually present with less advanced stages of breast cancer as a result of adoption of screening methods, whereas those in communities with low level of awareness often present late.[11]

The early detection and diagnosis rate of breast cancer is considerably low among Ethiopian women compared to women in Western countries.[18] This fact reflects the lack of awareness of breast cancer as well as low cancer detection and prevention activities among Ethiopian women. Therefore, many women miss early detection and treatment opportunities due to lack of information, knowledge and awareness of breast cancer, as well as cancer screening practices.[19]

Empowering female healthcare workers (HCWs) with information about early detection methods and their related benefits could help in advancing their skills in performing BSE and expanding their role as client educators.[20] However, studies show that HCWs have high knowledge of breast cancer and early detection methods but they report poor practice of early detection methods. For instance, a study conducted in Addis Ababa among female HCWs reported that 77.6% of female HCWs aware BSE as screening methods, 75.1% practiced BSE but only 35.5% of them practiced monthly.[21]

Generally, 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 well-organized control and prevention programs against the disease; diagnosis and treatment services are very limited. Looking at the higher figure of breast cancer globally at current and future, great emphasis must be given to the issue of breast cancer and its screening to reduce the mortality rate. So far, no previous research was done in the study area and practice of BSE among Ethiopian female HCWs is not well documented. Therefore, this study was undertaken in the region where there is no single study is done previously.

METHODS AND MATERIALS

Study Area and Period

This study was conducted in Dire Dawa town from March 1 to March 30, 2017. Dire Dawa is situated at the Eastern part of Ethiopia, 515 km away from Addis Ababa and lies at a latitude and longitude 9°36′N and 41°52′E. Based on 2007 census conducted by the central statistical agency of Ethiopia, Dire Dawa has a total population of 342,827 of whom 171,461 are males and 170,373 are females and the growth rate was 2.5%. Out of the total population, 233,224 (67.93%) lives in urban and 108,610 (32.07%) live in the rural area.[22] Dire Dawa Administration has six hospitals (2 governmental, 3 private and 1 Ethio-Djibouti hospitals), 16 health centers, 34 health posts, and 32 private clinics. There are 1,340 Female HCWs working in different health facilities found in the administration.

Study Design

Facility based cross sectional study design was employed in Dire Dawa public health facilities.

Population

Source Population

All female HCWs working at Dire Dawa public health facilities.

Study Population

Randomly selected female HCWs working at Dire Dawa public health facilities.

Inclusion and Exclusion Criteria

Those female HCWs who were on their work were included in the study. But those who had mastectomy were excluded from the study.

Sample size Determination

For the first objective**,** the sample size was determined by single population proportion formula by taking (P=.355) which is prevalence of breast self-examination of female nurses 35.5% in Black Lion hospital, Addis-Ababa, Ethiopia[21], 5% margin of error and 95% confidence level($Z\alpha_{/2}$)used by the following formula.

$$n = \frac{(Z\alpha_{/2})^2[P][1-p]}{d^2}$$

Adding 10% non-response rate (35.18 person), the total sample became =**387**

For the second objective, sample size was determined by using double population proportion formula taking proportion of education level and work experience from previous study conducted in Black Lion hospital, Addis-Ababa, Ethiopia.[21]

$$n_1 = \frac{\left[Z_{\frac{\alpha}{2}}\sqrt{\left(1+\frac{1}{r}\right)P(1-P)} + Z_{\beta}\sqrt{P_1(1-P_1)+\frac{P_2(1-P_2)}{r}}\right]^2}{(P_1-P_2)^2}$$

Where

- $Z_{1-\alpha}$ = Z score for the desired confidence level ($Z_{1-\alpha}$ = 1.96 at 95% confidence level)
- $Z_{1-\beta}$ = Z score for the desired power ($Z_{1-\beta}$ = 0.83 at 80% power)
- r = n1/n2=1 for the population allocation ratio
- P (pooled population proportion) = $\frac{P1+rP2}{1+r}$

By using Epi Info version 6 unmatched case control study sample size becomes as follows.

Factors	Prevalence of BSE practice		Sample size
	Yes	No	
Education status of 1st degree and above	P1 = 40.5%	P2 = 59.5%	264
Work experience of 20 years and above	P1 = 35.9%	P2 = 64.1%	110

Since the sample size calculated for objective one was larger, the study sample size was taken to be 387**.**

Sampling Procedure/technique

Dire Dawa has 10 urban public health facilities (2 Hospitals and 8 Health Center). The total sample size was allocated proportionally to the number of female HCWs in each health facilities. Finally study subjects were drawn with in the health facilities by simple random sampling technique. Registered lists of female HCWs were used as sampling frame.

Study Variables

Dependent variable was level of BSE practice Independent variables includes socio demographic characteristics like age, educational level, marital status and service year. Knowledge on BSE and breast cancer, Attitude towards BSE. Other factors such as personal history of breast problem, family history of breast cancer, ever nursed patient with breast cancer.

Data Collection Procedures

Primary data was collected using self-administered structured questionnaire from female HCWs in Dire Dawa public health facilities between March 1 to 30, 2017. The questionnaire contains information on socio-demographic, history of breast cancer, knowledge on BSE and breast cancer, attitude on BSE practice and level practice of BSE.

Data Quality Control

Training was given for the data collector and supervisor for two days on the objective of the study, ethical issue and description about inclusive and exclusive criteria. The structured questioner was pretested in one of private health facility (i.e. ART General hospital) found in Dire Dawa. The pretest was done on 25 subjects (about 5%) of the total sample size. Then the questioner was assessed for its clarity, completeness and its relevance. All filled questionnaires were reviewed each night and morning sessions were conducted daily basis with the data collectors.

Data Management and Analysis

Data were sorted, coded and entered in to computer by using Epi Data version 3.02 after checked for completeness and accuracy. Then data were exported to SPSS database program 20.0 version for further analysis. Univariate analysis and appropriate graphic presentations was used for describing data. Bivariate analysis of demographic and other factors associated with BSE practice was done and to ascertain the association; variables found to be significant ($p<0.25$) in the bivariate analyses were used to construct a multivariate models. Adjusted odds ratio along with 95% Confidence Interval (CI) was estimated to identify factors associated with BSE practice using multivariate logistic regression analysis. A p-value < 0.05 was considered as statistically significant.

RESULTS

Socio Demographic Characteristics of the Respondents

A total of 370 female HCWs had participated in the study making a response rate of 97%. Out of 370 respondents participated in this study, 208(56.2%) were in age group 20-29 years old, 89 (24.1%) were in age group 30-39 years old and the remaining 73(19.7%) were in age group 40 and above years old. Among the total study participants, majority 187(50.5%) were unmarried and most 200(54.1%) respondents had 1st degree and above. Moreover, 204 (55.2%) respondents had 9 years and below work experience (Table-1).

History of Breast Cancer among Study Participants

About 365(98.6%) and 308(83.2%) of the participants had no personal history of breast disease and family history of breast cancer, respectively, while 198(53.2%) had ever looked after patient with breast cancer and the remaining 172(46.5 %) never nursed (Figure- 1).

Knowledge of Study Participants about Breast Self – Examination

We prepared 10 questions to assess the knowledge of study participant. Among the prepared question those who answered above mean score considered had good knowledge towards BSE and those who answer below mean score had poor knowledge. Based on this, out of 370 respondents 78.9% had good knowledge towards BSE but only 21.9% had poor knowledge towards BSE. Three hundred forty two (92.4%) of the nurses reported that females are more affected by breast cancer than males and the majority 334 (90.2%) reported that a girl should perform regular BSE once every month. Of the total participants, 352(95.2%) reported that breast cancer is not communicable and 329(88.9%) respondents report that BSE is important to detect early breast cancer and promote treatment (Table -2).

Attitude of Study Participants towards Breast Self – Examination

Regarding attitude of female HCWs towards BSE, majority 281(75.9 %) had positive attitude towards BSE while 89(24.1%) had negative attitude towards BSE (Table- 3).

Breast Self-Examination Practice

One hundred forty one (38.2%) of the participants indicated that they performed BSE every month, but only 23(16.3%) of them performed daily. Similarly, 34(21.4%) of them performed BSE 1-3 times a week, 47(33.3%) performed 1-5 times for 2 weeks and the remaining 37(26.3%) performed 1-5 times for 3 weeks regularly in the last 1 month. However, significant number 229(61.8%) participants did not perform BSE for the last one month. The reasons for not doing BSE were carelessness 53(21.4%), forgetfulness 61(26.6%), fear of being diagnosed with breast cancer 72 (31.4%), have no breast problem 25(10.9%) and other reasons 18(8.2%) (Table -4).

Breast Self-Examination Practice and Associated Factors

The bivariate logistic regression shows those nurses with education status of 1st degree and above [COR= 2.97, 95% CI (1.03, 6.73)], clinical experience of 10 year and above [COR= 2.1, 95% CI (1.12, 5.34)], personal history breast problem [COR= 4.1, 95% CI (1.03, 7.02)], good knowledge [COR=4.9, 95%CI(1.57, 7.89)] and positive attitude [COR= 1.15, 95% CI (1.21, 3.43)] showed significant association with breast self-examination practice.

Those variables with p<0.25 in the bivariate analyses were selected and adjusted in multivariate regression analysis. Accordingly nurses with education status of 1st degree and above [AOR= 3.14, 95% CI (1.98, 6.21)], having clinical experience of 10 year and above [AOR= 2.6, 95% CI (1.71, 6.23)], positive attitude [AOR= 1.9, 95% CI (1.24, 8.04)] and good knowledge [AOR=4.5, 95% CI (2.33, 12.34)] were significantly associated with breast self-examination practice (Table- 5).

DISCUSSION

Breast self-examination is the recommended method in developing countries because it is easy, convenient, private, and safe and requires no specific equipment. Its purpose is to make women familiar with both the appearance and feel of their breasts as early as possible, so that they will be able to easily detect changes in their breast.[23]

The present study revealed that regular practice of BSE among participated female nurses was found to be 38.2% which is in consistent with studies done among Ethiopian female HCWs in Addis Ababa which was 35.5%[21] and west Gojam zone of Amhara region which reported 37.3% practice of BSE.[18] But our finding was lower compared with similar studies done in other Africa country like Nigeria and Morocco where practice of BSE was 95.8% and 79.3%, respectively.[11,24] The possible explanations for this discrepancy might be variations in geographical area and study period as well as presence of training on BSE techniques.

Regarding barriers to BSE practice as reported by participated female HCWs in the study area, fear of being diagnosed with breast cancer (31.4%), forgetfulness (26.6%), carelessness (21.4%), and having no breast problem (10.9%) were the main reason for not doing BSE. This finding is supported by several studies done in different area in different time. For instance, a study in Malaysia documented not having any symptoms (20.3%) and afraid of being diagnosed with breast cancer (14.3%)[25], in Turkey overworked/too busy (27%), not knowing how to perform BSE (7%) and not believing that BSE is beneficial (2%).[27] Similarly in Tanzania lack of knowledge about the procedure (46.2%), forgetfulness (30.0%), and overworked/too busy (30%)[26], and in West Gojjam Zone of Amhara region reported having no breast problem (53.2%), not knowing the technique (30.6%), and not knowing the importance of BSE (21.4%)[18] were also barriers of BSE.

In multivariate analysis, it was found that female nurses who had higher educational status [AOR= 3.14, 95% CI (1.98, 6.21)] were 3.14 more likely to practice BSE compared to those nurses who had diploma. This finding is in consistent with a study carried out in two Ghanaian cities, Accra and Sunyani where higher levels of education were associated with practice of BSE (p < 0.001).[28] Similarly, study done in Dezful City and urban area of Babol health centers in Iran showed that there was statistically significant association between higher educational status and practice of BSE.[29]

This study also revealed that female nurses who had clinical experience of 10 year and above [AOR= 2.6, 95% CI (1.71, 6.23)] were 2.6 more likely to practice BSE than their counter part. Which is comparable with

study conducted in Nigeria which showed a statistically significant association between practice of BSE and work experience (p=0.0006).[11]

The present study found that nurses who had positive attitude towards BSE [AOR= 1.9, 95% CI (1.24, 8.04)] were 1.9 more likely to practice BSE than nurses who had negative attitude. Similar finding was documented by studies conducted in Iran (P = 0.001).[29]

Similarly, female nurses who had higher knowledge towards BSE [AOR=4.5, 95% CI (2.33, 12.34)] were 4.5 times more likely to practice BSE than their counterpart. In the contrary of the above findings, a study conducted in Nigeria showed no statistically significant association between knowledge towards BSE and practice of BSE.[11] This discrepancy may be due to difference in sample size, type of study population and method of analysis applied between the two studies. However, our finding is supported by similar studies done in Nigeria[30], in Morocco[24], in Iran[10] and in Mekelle town, Ethiopia[31] all showed that having good knowledge about BSE were independently associated with practice of BSE.

In this study, marital status, age, personal history of breast problem, family history of breast cancer and ever nursed a patient with breast cancer were not statistically associated with practice of BSE. Our finding is supported by a study done in Morocco and Nigeria where there was no significant association between age and BSE practice.[30,24] Moreover, the study in Iran showed that there was no significant association between BSE practice and personal and family history of breast problems.[10]

Table. 1. Socio demographic characteristics of Female Nurse Workers in Dire Dawa town Public Health Institution, Eastern Ethiopia, April 2017 (n=370).

Variables	Frequency	Percentage
Age (in years)		
20-29	208	56.2
30-39	89	24.1
40+	73	19.7
Marital status		
Married	171	46.2
Unmarried	187	50.5
Widowed	5	1.4
Divorced	7	1.9
Education status		
Diploma	170	45.9
1st Degree and above	200	54.1
Clinical Experience		
<=9 years	204	55.2
≥ 10 years	166	44.8

Table. 2: Knowledge of study participants on breast self-examination in Dire Dawa, Eastern Ethiopia, April 2017 (n=370).

Knowledge assessment item	Response option*	No (%) responses
Breast cancer is communicable disease	False	352(95.2%)
Females are more affected by breast cancer than males	True	342(92.4%)
BSE are one Of EDM of breast cancer	True	334(90.3%)
BSE is expensive screening method of breast cancer	False	307(83%)
BSE is important to detect early breast cancer and promote treatment	True	329(88.9%)
A girl should start BSE at the age of 30 years	False	305(82.4%)
A girl should perform regular BSE once every month	True	322(87.02%)
Both inspection and palpation are techniques of BSE	True	316(85.4%)
We can do BSE at sitting position	True	340(91.9%)
We look breast lump during BSE	True	313(84.6%)
Knowledge		
Good Knowledge		78.9%
Poor Knowledge		21.1%

* Correct Response option

Table. 3: Attitude of Study Participants towards Breast self –examination in Dire Dawa public health institution, Eastern Ethiopia, April 2017 (n=370).

Attitude questions	Frequency	Percentage
Practicing BSE regularly and correctly is important to detect the disease at earlier stage		
Strongly agree	142	38.4
Agree	169	45.7
Neutral	10	2.7
Disagree	40	10.8
Strongly Disagree	9	2.4
By detecting breast cancer through BSE, I can improve my chance of survival		
Strongly agree	160	43.2
Agree	148	40
Neutral	9	2.4
Disagree	29	7.8
Strongly Disagree	24	6.6
BSE is a low cost method of detecting breast cancer early		
Strongly agree	195	52.7
Agree	145	39.2
Neutral	6	1.6
Disagree	15	4.1
Strongly Disagree	9	2.4
I believe it is very useful to examine my breasts regularly		
Strongly agree	120	32.5
Agree	113	30.5
Neutral	21	5.7
Disagree	73	19.7
Strongly Disagree	43	11.6
It is not difficult for me to remember to do regular BSE every month		
Strongly agree	115	31.1
Agree	98	26.5
Neutral	12	3.2
Disagree	84	22.7
Strongly Disagree	61	16.5
Attitude		
Positive Attitude **	89	24.1
Negative Attitude *	281	75.9

** Positive attitude: "those respondents said strongly agree and agree"

* Negative attitude: "those respondents said strongly disagree and disagree

Table. 4: Breast self-examination practice among female nurses in Dire Dawa town, Eastern Ethiopia, April 2017 (n=370).

Variables	Number	Present
Have you practiced breast self-examination every month (n = 370)		
Yes	141	38.2
No	229	61.8
How frequent you practiced BSE for the last 1 month(n = 141)		
Once a day	23	16.3
1-3 times a week	34	24.1
1-5 times for 2 week	47	33.3
1-3 times for 3 week	37	26.3
Reasons for not doing breast Self-examination (n = 229)		
Carelessness	53	22.9
Forgetfulness	61	26.6
Fear of being diagnosed with breast cancer	72	31.4
Have no breast problem	25	10.9
Others *	18	8.2

* "I don't know the technique, I think it is not important, I shouldn't touch my body" responses

Table. 5: Bivariate and Multivariate logistic regression analysis of Regular BSE practice among study participants in Dire Dawa, Eastern Ethiopia April 2017 (n=370).

Variables	BSE Practice		COR (95%CI)	AOR (95%CI)	p-value
	Yes (%)	No (%)			
Age (in years)					
20-29	100(48.1%)	108 (51.9%)	1.67(0.24, 7.34)	0.86(0.9, 11.2)	.230
30-39	15(16.9%)	74(83.1%)	4.5(0.92, 5.23)	5.3(0.56-8.3)	.760
40+	26(35.6%)	47(64.4%)	R	R	
Marital status					
Unmarried	74(39.6%)	113(60.4%)	0.9(0.62, 2.36)	0.6(0.13, 1.89)	.053
Widowed	1(20%)	4(80%)	2.4(1.02, 5.67)	1.6(0.56, 3.01)	.067
Divorced	1(14.3%)	6(85.7%)	3.5(0.78, 5.82)	0.78(0.09, 2.04)	.057
Married	65(38%)	106(62%)	R	R	
Education status					
1st Degree and above	84(42%)	116(58%)	1.43(1.03, 6.73)	3.14(1.98, 6.21)*	.002
Diploma	57(33.5%)	113(66.5%)	R	R	
Clinical Experience					
≥ 10 years	80 (48.2%)	86(51.8%)	2.1(1.12, 5.34)	2.6(1.71, 6.23)*	.001
<=9 years	61(29.9%)	143(70.1%)	R	R	
Personal history of breast problem					
Yes	3(60%)	2(40%)	2.46(1.03, 7.02)	3.4(0.96, 6.23)	.081
No	138(37.8%)	227(62.2%)	R	R	
Family history of breast cancer					
Yes	22(35.5%)	40(64.5%)	0.87(0.16-4.01)	0.2(0.01-2.01)	.086
No	119(38.6%)	189(61.4%)	R	R	
Ever nursed a patient with breast cancer					
Yes	72(36.4%)	126(63.6%)	0.85(0.12, 3.54)	0.25(0.02, 2.12)	.064
No	69(40.2%)	103(59.9%)	R	R	
Knowledge					
Good Knowledge	139(47.6%)	153(52.4%)	4.9(1.57, 7.89)	4.5(2.33, 12.34)*	.0001
Poor Knowledge	12(15.4%)	66(84.6%)	R	R	
Attitude					
Positive Attitude	117(41.6%)	164(58.4%)	2.15(1.21, 10.45)	1.9(1.24, 8.04)*	.041
Negative Attitude	34(38.2%)	55(61.8%)	R	R	

*"p<0.05" Statistically significant.

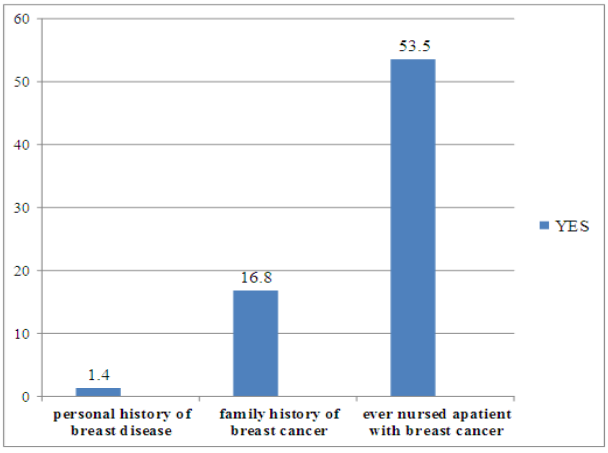

Figure. 1: History of breast cancer among study participants at the public health facilities in Dire Dawa town, Ethiopia, April 2017 (n=370).

CONCLUSION

It can be concluded that female Nurses working at Dire Dawa public health facilities had good knowledge and positive attitude towards breast self-examination but their performance (i.e., regular practice of BSE) was very low. The main reasons for not doing breast self-examination were carelessness, forgetfulness, fear of being diagnosed with breast cancer, having no breast problem and other factors (like overburden, don't know the technique).

Nurses with education status of degree and above, having clinical experience of 10 year and above, positive attitude and good knowledge were significantly associated with breast self-examination practice.

RECOMMENDATIONS

✓ Effective health education campaigns will be needed to elucidate the risk factors and prevention of breast cancer not only to nurses, but also the public at large.
✓ Strengthening service delivery at the provider and facility level to improve prompt access to effective breast cancer diagnostic and treatment services.
✓ Training on the techniques of BSE for all HCWs is one way of reaching the wider community and the best opportunity to tackle the problem at wider perspective.
✓ Further studies are needed to explore what

intervention could be best used to improve the uptake and practice of BSE and other methods for early breast cancer detection.

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AUTHORS' CONTRIBUTIONS

ID was major contributor designed the study, participated in data collection, analysis, interpretation and write-up, and drafted the manuscript. FT and NA participated in the data collection, analysis, interpretation and write-up. RM participated in the data collection, analysis, interpretation and write-up, drafted the manuscript and critically revised the manuscript. All authors read and approved the final manuscript.

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CONFLICT OF INTEREST

All authors declare no conflict of interest.

ETHICAL APPROVAL

Ethical approval was obtained from the ethical review committee of the Dire Dawa University, college of Health science. Letter of permission was obtained by communicating to Dire Dawa health bureau before conducting the study. Participants were informed about the purpose/aim, benefits and duration of study. Then consent was filled and signed.

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