Assessment of the practice of breast self-examination and associated factors among health science female students of Ambo University: Cross sectional study

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Abstract

Background: Breast Self-Examination is process whereby women examine their breasts regularly to detect any abnormal swelling or lumps in order to seek prompt medical attention. Breast cancer is the most prevalent cancer among women globally and the second commonest cancer overall. The aim of this study was to assess practice of breast self-examination and associated factors among Health science female students at Ambo University in 2019.

Methodology: Institutional based cross-sectional survey was carried out among Health science female students at Ambo University in 2019. Data was collected by using a pre tested and pretested self-administered questionnaires. The response was systematically tabulated and analyzed using SPSS version 20, and explanations were given separately.

Result: A total of 150 respondents participated in the study, of these 80 (53.3%) of them had good knowledge and only 67(44.7%) of the respondents had practiced BSE before. Among study participants whose families had breast cancer, practice BSE 2.12 times more than study participants whose families didn't have history of breast cancer (AOR=2.12; 95% CI, 1.09–3.95, P=0.044). Those who had good knowledge toward BSE were 5.5 times more likely to practice BSE than those who had poor knowledge (AOR=9.5; 95% CI, 5.5–18.8, P=0.002).

Conclusions: The overall knowledge of female students towards breast self-examination was 62%. This study showed that only 67(44.7%) of the study participants ever practiced BSE. The independent predictors of breast self-examination were family history of breast cancer and knowledge how to perform breast self-examination.

Keywords: Breast; Feeding; Lactation; Practice; Factors

Introduction

Breast cancer is one of the most commonly diagnosed cancers globally, which accounts for 1.7 million cases in 2012, and there were 6.3 million women diagnosed with breast cancer in the previous five years [1].

Breast cancer continues to be a prominent women's health problem, representing 28% of all female cancers. The most common initial evidence of breast cancer is a lump. It is not known why cancerous tumors develop. At first, they remain confined in the breast, when they have grown a certain amount, they may spread to other parts of the body, this depends on the type of cell forming the tumor. The condition affects both breasts only in 10% cases [2, 3]. The practices of BSE are low among university students and the main barriers were lack of knowledge and how

it is performed [4, 5]

The growth and aging of the population of the countries of low or middle income countries, together with Westernization of life style and the rapid growth of tobacco smoking, change in life style habits (more sedentary lifestyle, weight gain and obesity) and societal changes (increasing age at first birth and decreasing parity in women) are leading to large increases in breast and colorectal cancer [6].

In Africa, breast cancer was also the most commonly diagnosed cancer and the second leading cause of death among women in 2008, 92,600 cases and 50,000 deaths were reported that year. Cancers are a growing burden and continues to receive a relatively low public health priority in Africa, because of the limited resources and more attention given to communicable diseases [8, 9].

In Ethiopia, currently about 60,000 new cases of cancer are diagnosed each year and each day around ten to fifteen new patients are seen [10].

The study conducted by Addis Ababa city Cancer Registry from 2011 to 2014, breast cancer is the leading type among females and accounts for 33% of all cases of cancer, followed by cervix uterus which accounts for 17% [11].

The study done among female health science students at Adama Science and Technology University showed the knowledge and practice of breast self-examination was low. Only 8(5.5%) of the respondents practiced breast self-examination and 8.7% of the respondents had good knowledge [14]. According to studies carried out in Ethiopia, there are several factors often cited by study participants as reasons for them not performing BSE. The prominent ones constitute the lack of adequate awareness about the disease, not knowing the techniques, not seeing problems such as lumps on their breasts, and having little or no information about BSE and its importance [12-14]. Therefore, this study attempted to assess the BSE practice and associated factors among 1st year health science female students in Ambo University, West Shoa Zone, Ethiopia, Oromia Region, 2019.

Methods

The study was conducted in Ambo University among 1st year health science female students by using institutional-based cross-sectional study design. The study was conducted from October 15-February 13, 2019 GC The sample size was determined using a single population proportion formula with the assumption of marginal error of 5%, 5% of nonresponse rate, 95% confidence level, and the prevalence of breast self-examination practice to be 28.3% from the study conducted in Debre Behran University.

Since the sample was drawn from a finite population, the correction formula was applied. Finally, the sample size of 165 was determined. The calculated sample size was proportionally allocated to each department based on the number of female students in the college.

After proportionally assigning a sample size to each department, a simple random sampling technique was applied to select study participants. All-female students who were actively in education during data collection at each department were included.

Data was collected using pretested self- administered questionnaire. The questionnaire was developed in the English language after reviewing and extracting from different pieces of literature developed for the same purpose. The knowledge of breast self-examination was assessed by multiple questions. Each correct answer was given as a score of 1 and a wrong response score of 0.

According to Bloom's classification, cut-off points for knowledge score

Good knowledge: a score of 80-100% of correct responses for knowledge questions

Satisfactory knowledge: a score of 60-79% of correct responses for knowledge questions.

Poor knowledge: a score less than 60% of correct responses for knowledge questions.

Good practice of breast self-examination was who performed breast self-examination practice a week after each mense with their palm and middle three fingers, otherwise called poor practice.

The collected data was cleaned, cheeked for completeness, compiled, and data analysis was systematically tabulated and analyzed using Statistical Package for Social sciences (SPSS) version 20 software. Descriptive statistics was used to see frequency and percentage. Presentation of data was done by using tables and figures. To assess the association between dependent and independent variables by controlling for confounders, first binary logistic regression was run and variables with P-value≤0.05 and the variables which are known to have an association with dependent variables from the reviewed literature were selected for multiple logistic regression analysis. Statistical significance was declared at P-value <0.05 with 95% confidence interval (CI).

To ensure the data quality of our study, the following measures were taken

The questionnaire was developed by reviewing relevant pieces of literature on the subject. Additionally, the questionnaire was pretested and modified where necessary. One day training was given for data collectors and supervisors.

Dependent variable: Breast self-examination practice (BSE)

During the fieldwork, the objective of the study was clearly explained to the study participants, the confidentiality of the data to be collected, and the right not to participate were also assured. Before starting the data collection process, written consent was taken from each respondent after they read and signed the consent form.

Results

Socio demographic characteristics of the study participants

A total of 150 female students were responded to the distributed questionnaires, making a response rate of 91%. The participants ranged from the ages of 20 to 27 years old. As it can be seen from the table, Majority of the respondents (53.3%) were protestants, 29.3% were orthodox, 16% were Muslim, and there were 1.3% of waaqeffannaa religion followers.

From the study participants, the majority of them (58%) were Oromo, 31% were Amhara, and there were only 6.7% of the study participants were Tigre.

Their educational status was at the same level that all study participants was 1st year health science students of different departments. From the total participants, the majority, 40% of them were from nursing department, 20% of were from midwifery department, 16% of them were from pharmacy, and only 2.7% of the study participants were from medical laboratory departments

Knowledge about BSE

Majority, 93(62%) of the participants had good knowledge, and 57(38.8%) of the study participants had poor knowledge of breast self-examination from the total participants, 112(74.7%) was heard about BSE and 38(25.3%) of the respondents have no any information about BSE. The main source of information of the breast self-examination was from class room teaching (64.5%).

Practice of study participants toward BSE

This study showed that only 67(44.7%) of the study participants ever practiced BSE, including 38 (56.7%) participants who performed BSE every month, 17(25.4%) participants who performed once in a week and 12 (17.9%) participants who performed once in a year.

The study respondents who practice BSE, majority, 30 (44.8%) of the respondents uses circular technique during BSE, 19 (28.4%) of them use wedge technique, 11(16.4%) of them uses vertical technique, and 7 (10.4%) of the study respondents uses the above technique.

The majority of the participants, 83(55.3%) who did not perform BSE, were further asked on their reasons for not performing BSE, and 21 (25.3%) said that they had lack of knowledge, 19(22.9%) followed by negligence, and 18(21.7%) fear of detecting something abnormal 15(18 %) of them said carelessness, and10 (12%) of them said forgetfulness.

Regarding the questions about their family history, 35(23.4%) of the participants had family history (mother or sister) of breast cancer and were 115(76.6%) did not have a family history of breast cancer, from the participants who had a family history of BC 15(42.9%) responds know that at risk for developing breast cancer and 57.1% should not know that at risk for developing breast cancer.

Factors associated with the practice of breast self-examination

To see the effect of independent variables on the dependent variables (practice of BSE), bivariate and multivariate logistic regression analyses were carried out. The analysis was done by including Sociodemographic characteristics, history of breast cancer, and knowledge of BSE.

A result obtained from bivariate and multivariate logistic regression showed that family history of breast cancer and knowledge has a significant association with the practice of BSE. Among study participants whose families had breast cancer, practiced BSE was 2.12 times more than study participants whose families didn't have history of breast cancer (AOR=2.12; 95% CI, 1.09–3.95,P=0.044).

Those who had good knowledge on BSE were 5.5 times more likely to practice BSE than those who had poor knowledge (AOR=9.5; 95% CI, 5.5–18.8, P=0.002).

Discussions

Among the study participants, 62% of them had good knowledge of 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 respondents had good knowledge. This significant difference may be attributed to the difference in the number of participants in this study, and exposure to theoretical learning.

Additionally, the finding of the study among Female University students in Presbyterian University College, Ghana, showed that 95% of the respondents had good knowledge about BSE which was higher compared to this study. This might be explained by the fact that the study participants were senior female nursing students who had better clinical knowledge about BSE and who don't have good clinical knowledge when compared to the above study in Ghana which is done among senior health science female students.

According to this study, 74.7% of the study participants had heard about breast self-examination previously. In this study, the major source of information about BSE was class room teaching, which accounted for 64.5%. The case was different in other studies conducted in Ghana (48%) and Mekele, Ethiopia, 58.5% (32,33) where the major source of information about breast self-examination was mass media(TV, Radio, Magazines and Newspapers).

In this study, 44.4% of the study participants have practiced breast self-examination. The study done in Adama Health Science and Technology University showed almost similar practice of BSE at 39.4% and there is a little bit difference with this study. Compared to this study, the finding of the study done in Mekele city indicated that a higher percentage of participants 53.6% practiced BSE.

In this study, the main reasons for not practicing BSE as explained by participants were not knowing how to perform breast self-examination, negligence, fear of detecting abnormalities in their breast, carelessness, and forgetfulness. Similarly, in the study carried out in Buena Cameron, number one reason for not performing BSE was having no sign of breast cancer.

Another study conducted in Mekele, Gojam, Ethiopia, also showed that the main reasons for not performing breast self-examination were having no breast problem, not knowing the breast self-examination technique, not knowing the importance of breast self-examination and absence of breast symptoms or disease.

Conclusions

The overall knowledge of female students towards breast self-examination was 62%. This study showed that only 67(44.7%) of the study participants ever practiced BSE, including 38 (56.7%) participants who performed BSE every month, 17(25.4%) participants who performed once in a week and 12 (17.9%) participants who performed once in a year. The independent predictors of BSE were family history of breast cancer and knowledge how to perform breast self-examination.

Finally, additional community-based research should be needed in the future to improve understanding of the community on the practice of breast self- examination.

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