

Female University Students' Knowledge and Practice of Breast Self-Examination in Turkey

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INTRODUCTION

Breast cancer, the most frequent malignancy in women, is also the second most frequent among the entire world population. In the year 2018, about 2.1 million women worldwide were diagnosed with breast cancer for the first time, according to the International Agency for Research on Cancer, an organ of the World Health Organization (WHO). This disease is the most frequent cause of cancer death in women. The most frequent cancer diagnosis for women in 154 out of 185 countries, one of four female cancer patients has breast cancer.^[1] According to Turkish Cancer Statistics year book which is published 2017, in Turkey, breast cancer is the most common malignancy in the country's women, with a frequency of 43.0 per 100,000 women in 2014.^[2] Although it is generally found in women 35 and over, late detection in women aged 20–30 leads to worse prognoses for this age

ABSTRACT

Background: Breast cancer keeps its importance as an important health problem in developing countries like Turkey. Therefore, breast cancer screening and early diagnosis are more important for these countries. Although there are debates about breast self-examination, it is still involved in breast cancer screening programs in many countries. **Aim:** This study aimed to determine university students' knowledge and practice of Breast Self-Examination (BSE). **Materials and Methods:** The study universe consisted of all the female students studying at a public university. Sample size of 161 was calculated for a predicted event frequency. The research data were collected using a questionnaire. **Results:** A total of 73.3% of the subjects students had heard about BSE. Only half of these students had obtained additional information about BSE. While half of the students indicated that they did perform BSE, 33.3% reported doing so at regular intervals. The majority of the students were aware of BSE and its purpose. Only about half stated, however, that they practice it. Those who practiced BSE were not knowledgeable about how and when to perform it. **Conclusions:** In developing countries, to have adequate knowledge of BSE of young women and to do BSE, it is important to develop a consciousness of breast health and an awareness of breast cancer at this age.

KEYWORDS: Breast self-exam, female, knowledge, practice, university student

group.^[3,4] Breast cancer cannot be prevented, but the risk of the breast cancer can be reduced and it can be treated if it will be found at an early, more treatable stage. Early diagnosis using a variety of screening methods increases survival rates.^[5-7]

The methods known to provide the earliest diagnosis of breast masses include breast self-examination (BSE), physical examination by a physician and mammography.^[6,8,9] Due to lack of evidence clinical breast exam and breast self-exam are not part of the breast cancer screening program. Still, all women should be familiar with how their breasts normally

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look and feel and report any changes to a health care provider right away.^[10] Although there are debates about self-breast examination, it is still involved in breast cancer screening programs in many countries. In Turkey, a mammogram every 2 years, clinical breast examination with mammogram and providing consultancy to all women after age of 20 about self-breast examination to make the women aware are included in the National Breast Cancer Screening Program.^[11] Monthly regular BSE is an easy, cheap examination accessible to all women. It is an effective, reliable, noninvasive screening method that does not require any special tools and can be performed quickly.^[5,12,13] BSE allows the women to know their own breast structure and recognize differences from 1 month to the next.^[5,14] Approximately 80–90% of breast masses are discovered by the afflicted women themselves.^[14,15]

BSE acquires added importance for women aged 20–30 due to their very infrequent use of routine clinical examination and mammography. Especially all women aged 20 and above should perform BSE monthly, 5–7 days after the end of their menstruation if premenopausal and on the same day every month if postmenopausal.^[16] Many women, however, practice BSE either irregularly or not at all. Numerous published reports indicate that the ratio of women practicing BSE is 18–36% in the some countries^[17-19] and 7.3–32.5% in Turkey.^[20,21] There are many other reasons for the failure to perform BSE besides not knowing how to do it. Among these, the lack of time, the thought of not being able to use correct technique, the fear of finding a mass, and an oppressive feeling during manual examination have been invoked.^[12,13] Numerous studies have shown that even with the very significant place it occupies in the early diagnosis of breast cancer, BSE is not well-known by women in our country, and its use is insufficient.^[5,22,23] Published studies indicate that young women possess insufficient knowledge about the early diagnosis of breast cancer and either do not or insufficiently practice BSE due to a perception of being at very low risk for breast cancer.^[7,20,24,25] While the risk of breast cancer is indeed relatively low in university students, it is important to develop at this age a consciousness of breast health and an awareness of breast cancer.^[26,27] This study aimed to determine university students' levels of knowledge and practice of BSE. Thus we defined two research questions: What is the students' level of knowledge about BSE? and how do the students practice BSE?

MATERIALS AND METHODS

This descriptive research sought to determine the

knowledge and practice of BSE among female university students. The study universe consisted of all the female students (656 persons) studying at a public university in the Western Black Sea region of Turkey. A sample size of 161 was calculated for a predicted event frequency (Faculty of Engineering and Architecture: 84; Faculty of Economics and Administrative Sciences: 34; Vocational High School: 43).

The research data were collected using a questionnaire designed after a review of the relevant literature.^[5,18,20,26-29] The data questionnaire consists of three parts and 51 questions (11 open-ended, 40 multiple choice):

1. 27 questions on the demographic characteristics and health status of the students
2. An 11-question section evaluating the students' BSE knowledge
3. Another 13 questions to characterize the practice of BSE by the students.

The questionnaire was administered after obtaining written approval from the university involved (which was include ethical approval), explaining the study's purpose to the students and obtaining the written and informed consent of the participants. The questionnaires were administered by the researchers in the classroom. The data were evaluated using SPSS statistical software. Data were analyzed using frequency counts, percentages and means, and standard deviation.

RESULTS

The mean age was 20.53 ± 2.3 and 62.1% of students were under 20. The body mass index (BMI) of 80.1% of the students was 20–24. A total of 50.3% of the students reported their income status as middle. One-fourth (25.5%) smoked cigarettes, while about one in seven (16.8%) drank alcohol. The students experienced menarche at the age of 12.9 ± 2.9 . Of the students, 39.2% stated that they eat mainly fruit and vegetables, 24.8% fast food and 16.1% greasy and fried foods. Approximately one-third of the students (32.9%) had had an x-ray and one-tenth (9.9%) had taken oral hormonal contraceptives. While 27.3% of the students had a family history of cancer, 8.1% reported cases of breast cancer in their families [Table 1].

Nearly three-fourths of the students (73.3%) had heard about BSE. Only half of these students, however, had obtained additional information about BSE (not shown on the table). While a large majority (83.1%) of the students who were aware of BSE expressed the opinion that its purpose was the early detection of breast cancer, only half (55.1%) said that all menstruating women should practice BSE. When asked about the

Table 1: Distribution of some breast cancer risk factors

Risk Factors	Number	Percentage
Age (years)*		
≤20	100	62.1
21-24	51	31.7
≥25	10	6.2
Body mass index		
≤19	23	14.3
20-24	129	80.1
25-29	8	5.0
≥30	1	0.6
Income status		
Low	4	2.5
Middle	81	50.3
High	76	47.2
Smoking		
Smoker	41	25.5
Nonsmoker	120	74.5
Alcohol intake		
Yes	27	16.8
No	164	83.2
Age at menarche		
≤12	22	13.7
13-14	103	63.9
≥15	28	17.4
Does not remember	8	5.0
Main food type		
Fruit and vegetables	63	39.2
Fast food	40	24.8
Fatty and/or fried	26	16.1
All types	23	14.3
Meat and dry leguminous vegetables	9	5.6
Oral hormonal contraceptive use		
Yes	16	9.9
None	145	90.1
Family history of cancer		
Yes	44	27.3
None	117	72.7
Family history of breast cancer		
Yes	13	8.1
None	148	91.9
Total	161	100.0

*X±SD=20.5±2.3

frequency with which they themselves practiced BSE, slightly over half (52.5%) said monthly. Half the students (50.9%) did not know when BSE should be performed, and 55.9% said that a physician should be consulted whenever a thickening or swelling was found during self-examination. Even though the students were asked how BSE is performed, they either failed

Table 2: Knowledge of students aware of BSE

Information item	Number	n=118 (%)
What is the purpose of BSE?		
Early diagnosis of breast cancer	98	83.1
Confirmatory in case of doubt	6	5.1
Does not know	12	10.2
Other*	2	1.6
Who should practice BSE?		
All menstruating women	65	55.1
Women aged over 20	16	13.6
Women aged over 30	8	6.8
Women with breast cancer in the family	4	3.4
Does not know	20	16.9
Other**	5	4.2
How often BSE should performed?		
Once a month	62	52.5
Once every 3 months	11	9.3
Once every 6 months	8	6.8
Does not know	29	24.6
Other***	8	6.8
When should BSE performed?		
One week after the end of menstruation	29	24.6
On the first day of each month	11	9.3
During menstruation	7	5.9
Does not know	60	50.9
Other****	11	9.3
In the presence of which of the below should a physician be consulted?*****		
Induration/mass	66	55.9
Pain	14	11.9
Does not know	34	28.8
Other*****	4	3.4

*Healthy life style, unable to consult a health care facility due to economic difficulties, ** Women with breast disease, married women, ***After each shower, once every two weeks, **** Immediately before menstruating, at any time, immediately following the end of menstruation, ***** Percentage of indicated number because more than one response was obtained, ***** Redness, discharge

to fill in the blank or answered that they did not know [Table 2].

While half the students indicated that they did perform BSE, only 33.3% reported doing so at regular intervals. Ignorance of how BSE should be done was indicated as the reason for not doing it by 48.5% of the students, and 34.7% considered it unnecessary because they had no breast-related complaints. While 55.5% indicated that they performed a BSE whenever they thought of it, only 13.3% reported doing it regularly every month [Table 3].

Table 3: BSE practice of students

	Number	Percentage
Do you practice BSE? (n=118)*		
Yes	60	50.8
No	58	49.2
Do you practice BSE regularly? (n=60)**		
Yes	20	33.3
No	40	66.7
How often do you perform BSE? (n=60)**		
When I think of it	33	55.0
After each bath	10	16.7
Once a month	8	13.3
Other***	9	15.0

*Number of students aware of BSE, ** Number of students reporting practice of BSE, *** Every 6 months, every 3 months, did it only once

DISCUSSION

Breast cancer, a major health concern in almost every region of the world, is the most common form of cancer among women. About one-eighth of all women having risk factors for breast cancer at some point in their lifetime, and one-third of these women are at risk of dying from breast cancer.^[30] BSE is not recommended for early detection of cancer by American Cancer Society (ACS)^[31] and WHO^[32] because of lack of evidence. But WHO defined awareness and accessing care as a first step in cancer early diagnosis.^[33] ACS also stated that women should be familiar with their breasts and report any changes to health care provider immediately.^[31] In Turkey, The Ministry of Health recommends health care providers to provide counselling to all women about how to perform BSE to rise their awareness about their breasts.^[11] BSE, which should be performed monthly after the age of twenty, is an easy, economical, reliable, effective and non-invasive method that all women can use without needing special tools or investing much time.^[34]

Over half the participants in our study (62.1%) were aged 20 or under. Breast cancer incidence increases past the age of 35, while the prognosis of disease acquired at an earlier age is markedly worse, due to late detection. Developing awareness of breast health and breast cancer among young women in their twenties, such as university students, is therefore very significant.^[5]

Cancer risk increases along with fatty tissue in the body, and a correlation between obesity and breast cancer has been shown.^[5,35] Even if most of the students in the study have normal BMI, almost half the students reported eating mainly ready-made or fried food indicated that changes in lifestyle are needed to reduce the risk of cancer.

Different published reports point to an increase in the risk of numerous types of cancer, including breast cancer. Although the relationship between breast cancer and alcohol intake has not been entirely explained, some correspondence between the two is reported.^[5] The majority of our study's subjects avoid the use of both alcohol and tobacco. Similar results were found in other studies performed in Turkey with university students.^[5,30,35] Support for university students to help them continue and improve this healthy behavior is of the extreme importance.

The risk to women with a family history of breast cancer varies according to the closeness of the relationship. The risk for a woman with cancer in a first-degree relative is reported to be 1.7–2.5 fold, while the presence of bilateral breast cancer in a mother or sister increases this risk to a 5–6 fold.^[36,37] Family history of breast cancer was present in 8.1% of our subject population. Enhancing the awareness of students with such family histories is especially important for early screening and prevention [Table 1].

Although early screening and diagnosis is not a reliable prevention method, with early detection cure rates are relatively high. It is important, therefore, for the population to know that early detection is possible and how to do it. Studies in Turkey of women in a variety of age groups showed that BSE is not well known or sufficiently practiced.^[37-39] Nearly three quarters of our subjects had heard about BSE. In the opinion of a majority of the students who were aware of BSE, its aim was the early detection of breast cancer.

Even though digital mammography is more sensitive than BSE in younger women and those with dense glandular tissue, there are few studies of this topic. Also, mammography screening is performed every 1-2 years, and BSE is still necessary to detect changes between examinations. BSE is therefore an important detection method, alongside CBE, for young women in their twenties.^[40] Several studies of university students in Turkey have found knowledge about the nature, timing and practice of BSE to be insufficient.^[14,38,41,42] Among the subjects in our study who were aware of BSE, only one indicated that it should be done by women over 20 years of age, one-fourth said that it should take place one week after the end of menstruation, and approximately half said that it should be performed at regular monthly intervals. The students were also questioned about how to do BSE, and they either did not respond or stated that they did not know. These results show that, even if the students were aware of the existence of BSE, they lacked sufficient knowledge and needed counseling about knowing their breast tissue and recognizing alterations in it.

Along with its low cost and easy application, the conditions identify above lead us to think that the early detection potential offered by BSE, although relative, has an important place in the lives of all women. This is particularly true in developing countries with low to moderate income levels, like Turkey, where socioeconomic realities make BSE inevitable and necessary. One should keep in mind, though, that BSE must be performed correctly and effectively to help with the early detection of breast cancer.^[38] Many studies have found that, even though women are aware of BSE,^[43-46] factors such as the lack of health awareness,^[42] forgetfulness, fear of a cancer diagnosis^[43] and the lack of information^[44] lead to irregular implementation or none at all. While half the subjects, a proportion consistent with the published studies, indicated that they did perform BSE, only 33.3% reported doing so at regular intervals. Ignorance of how BSE should be done was indicated as the reason not practicing it by 48.5% of the students, while 34.7% considered it unnecessary because they had no breast-related complaints. The rate of practicing BSE is lower than the desired level. This easy, cost-free, non-instrumental method, which can be used alongside other early breast cancer screening methods, is insufficiently implemented.

Two limitations of our study deserve mention. First, our results are based on self-reports from the students and we cannot assess the accuracy of these reports. Second limitation is using participants from only one University. So the generalize ability of the results of this study is limited to this study population.

CONCLUSION AND SUGGESTIONS

The majority of the students were aware of BSE and its purpose. Only about half stated, however, that they practice it. Those who practiced BSE were not knowledgeable about how and when to perform it. Therefore we conclude that training should be provided to students to increase their knowledge about BSE and research should be performed to identify the factors that hinder the practice of BSE so that their effect can be countered.

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Conflicts of interest

There are no conflicts of interest.

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