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ORIGINAL ARTICLE

Breast Self-Examination and Breast Cancer Awareness in Medical Students: A Survey Study in a Medical School

Tıp Öğrencilerinde Kendi Kendine Meme Muayenesi ve Meme Kanseri Farkındalığı: Bir Tıp Fakültesi Anket Çalışması

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ABSTRACT

Objective: This study aimed to determine the knowledge, attitudes and behaviors of students in a medical school regarding breast self-exam and also to explore their level of knowledge regarding breast cancer.
Methods: The research was carried out in Selcuk University Faculty of Medicine in April 2022, among medical students. The universe of the study consisted of all medical school students and it was conducted with 221 volunteers who accepted the study. Participants were asked questions about breast cancer and breast self-exam.
Results: Two-hundred twenty one students participated in the study. The mean age was 20,71±2,108 (range 18-32). Of the 221 participants, 67% (n: 148) were female and 33% (n: 73) were male, and 76.5% (n: 169) were preclinical (1st-2nd-3rd year) students, and 23.5% (n = 52) were clinical (4th-5th-6th year) students. 69.2% of the participants reported that they had knowledge about breast cancer. 66.8% (n:147) of the students stated that they did not perform BSE, and when they were asked why they did not perform it, 68.8% (n:93) of them explaiened that did not have enough information.
Conclusion: As a result of the survey in which the knowledge, attitude and behavior of medical school students about breast cancer and BSE were evaluated, it was concluded that there is a lack of knowledge about breast cancer. Regarding BSE, it was also determined that the students were not sufficient for both self-application and knowledge. Especially for developing countries, it is a cost-effective and effective screening method that can be useful in the early diagnosis of breast cancer when performed correctly.

Keywords: Breast cancer, Breast self-exam, Survey, Student

ÖZ

Amaç: Bu çalışma, bir tıp fakültesi öğrencilerinin kendi kendine meme muayenesi ile ilgili bilgi, tutum ve davranışlarını belirlemek ve ayrıca meme kanseri konusundaki bilgi düzeylerini araştırmak amacıyla yapılmıştır.
Yöntem: Araştırma, Selçuk Üniversitesi Tıp Fakültesi'nde Nisan 2022'de tıp öğrencileri arasında gerçekleştirildi. Araştırmanın evrenini tüm tıp fakültesi öğrencileri oluşturdu ve çalışmayı kabul eden 221 gönüllü ile gerçekleştirildi. Katılımcılara meme kanseri ve kendi kendine meme muayenesi hakkında sorular soruldu.
Bulgular: Araştırmaya iki yüz yirmi bir öğrenci katılmıştır. Yaş ortalaması 20,71±2,108 (dağılım 18-32) idi. 221 katılımcının %67'si (n: 148) kadın, %33'ü (n: 73) erkek, %76,5'i (n: 169) klinik öncesi (1-2-3. sınıf) ve %23,5'i (n: 52) klinik (4.-5.-6. sınıf) öğrencileriydi. Katılımcıların %69,2'si meme kanseri hakkında bilgi sahibi olduğunu bildirdi. Öğrencilerin %66,8'i (n:147) kendi kendine meme muayenesi yapmadığını belirtirken, neden yapmadıkları sorulduğunda %68,8'i (n:93) yeterli bilgiye sahip olmadığını belirtti.
Sonuç: Tıp fakültesi öğrencilerinin meme kanseri ve kendi kendine meme muayenesi konusundaki bilgi, tutum ve davranışlarının değerlendirildiği anket sonucunda meme kanseri hakkında bilgi eksikliği olduğu sonucuna varılmıştır. Kendi kendine meme muayenesi ile ilgili olarak öğrencilerin hem uygulamayla ilgili hem de bilgi açısından yeterli olmadığı belirlenmiştir. Özellikle gelişmekte olan ülkeler için, doğru yapıldığında meme kanserinin erken teşhisinde faydalı olabilecek, kullanımı uygun maliyet-etkin bir tarama yöntemidir.

Anahtar Kelimeler: Meme kanseri, Kendi kendine meme muayenesi, Anket, Öğrenci

Introduction

Breast cancer is the most common cancer among women and affects nearly 2.1 million women each year. According to the World Health Organization data, in 2020, there were 2.3 million women diagnosed with breast cancer and 685 000 deaths globally (1, 2). In Türkiye, breast cancer is the most common type of cancer in women. Breast cancer affects one out of every four women. When the age distribution of breast cancer is examined, the age range of 25–49 years is the age group in which breast cancer is seen with the highest rate of 34.2% compared to other age groups. When the stages of breast cancer are examined, only 10% of the invasive cases in the database are in the distant stage. A total of 17,630 women were diagnosed with breast cancer in one year (3). Efforts to raise awareness and implement screening programs for breast cancer are important for public health. With effective tumor screening methods, 61% of breast cancer diagnoses can be detected in the early stages, and a good prognosis can be achieved with effective treatment. In patients diagnosed at an early stage, 5-year survival expectations are around

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99% (4). The aim of screening programs is to diagnose a cancer that is common in women, such as breast cancer, at an early stage and to prolong the survival of patients with effective treatment methods, increase their quality of life, and to offer breast-conserving treatment options. There are three recommended methods for the early diagnosis of breast cancer. The first is "breast self examination (BSE)," the second is "clinical breast examination," which is performed by health professionals, and the third is "mammography" (5).

The aim of the present study is to increase the awareness of Selcuk University Medicine students about breast cancer and to evaluate their knowledge and attitudes about BSE.

Material and Methods

The research was applied to the 1st, 2nd, 3rd, 4th, 5th, and 6th grade medical students at Selcuk University in April–May 2022. The study's universe was intended to reach the entire universe, not just a sample of it. This cross-sectional study was approved by the decision numbered 2022/164 of the non-interventional clinical research ethics committee of the Selcuk University Faculty of Medicine. The research data were collected using a questionnaire designed after a review of the relevant literature. The data questionnaire consists of three parts and 20 questions:

1.3 questions about demographic characteristics

2.6 questions for evaluating the knowledge of breast cancer

3.11 questions about the knowledge and practice of BSE

Analyses were made using the IBM SPSS Statistics 23 package program. While evaluating the study data, frequencies (number, percentage) for categorical variables and descriptive statistics (mean, standard deviation, median, minimum, and maximum) for numerical variables are given.

Results

Two hundred twenty-one students participated in the study. The mean age of the students was 20,71±2,108 (range 18-32). Of the 221 participants, 67% (n = 148) were female and 33% (n = 73) were male (table 1), and 76.5% (n = 169) were preclinical (year of 1-2-3) students and 23.5% (n = 52) were clinical (year of 4-5-6) students. Relatives of 32.1% (n = 71) had a history of breast cancer. When asked how the relatives noticed the breast cancer, 64% of them stated that they consulted a physician because of the asymmetrical enlargement of the breast. When asked, "Do you have any knowledge regarding breast cancer?" 69.2% of the participants reported that they had knowledge about breast cancer. When asked, "If you do not have information, where would you like to obtain this information?" 39.8% of the participants replied "Internet", 25.5% "scientific seminars or scientific articles," and 22.4% "their courses at school or university." When asked the ratio of breast cancer in women, while only 27% replied as "1 in every 8 women" to the question in which the knowledge of the incidence of breast cancer was evaluated, more than half of the participants (59.2%) answered as "I have no idea" or "I am not sure." "Where would you like to receive information regarding early diagnosis of breast cancer?" The question was mostly replied to as "family medicine" by the participants with a ratio of 37.6%, followed by "school/university" with 29.9%, and "scientific articles" or "scientific seminars" with 19% (Table 2).

77.8% of the students stated that they had heard of BSE. 34.7% of the preclinical students (n = 58) and 63.5% of the clinical students stated that they knew how to perform BSE, and 23.5% of those who knew how to perform BSE stated that they acquired this knowledge from the educational institutions. It was determined that 33.5% of the participants in the study performed BSE (%41,9 for women). When asked regarding their level of certainty in performing BSE, it was found that 3.7% of them were sure of their BSE, which was a very low level for being sure of their examinations, 66.7% of them were undecided of their performing and 29.7% were unsure. "At what age should women start BSE?" 47.7% of them answered the question correctly by choosing the option "20 years old." When asked "how often should BSE be performed," 42.1% of the participants replied correctly by choosing the option "once a month." To the question "When should BSE be performed?" 41.9% (n = 80) replied correctly as "5-7 days after the onset of menstruation." When asked "why do BSE performers feel the need to practice," 47.7% of them stated that they performed BSE for routine screening purposes and 11.9% because of having a family history of breast cancer. When the students noticed any mass or change with BSE, 63.4% (n = 137) stated that they would go to the doctor first, and 81.9% of those who would go to the doctor knew which polyclinic to apply. While 66.8% (n:147) of the students stated that they did not perform BSE, when it was questioned why those who did not perform it, 68.8% (n:93) of them did not have enough information, 14.8% did not consider it necessary, 10,4% of them stated that they did not perform BSE since they could not spare the time for performing it. When asked, "Have you suggested anyone perform BSE?" %41.2 of them said "yes," while %58.8 said "no." To the question 'Have you been informed about BSE by your instructors?' 92 of the 221 participants said "no," while 129 said "yes." To the question, "If you were to perform BSE right now, could you achieve it litarelly without any help from any source?' Among the 221 participants, 63 said "no" and 159 said "yes." The majority (n = 28) of the 52 clinical students replied "no," and 24 of them replied "yes" (Table 3).

Table 1. Demographical features

	Number	Percentage %
Gender		
Female	148	67
Male	73	33
Age (median)		
21 (range, 18-32)		
Class		
Preclinic (class 1-2-3)	169	76.5
Clinic (class 4-5-6)	52	23.5

Table 2. Knowledge and Opinions about Breast Cancer

	Number	Percentage %
Do you have any knowledge about breast cancer?		
Yes	153	69.2
No	67	30.8
If you don't have information, where would you like to obtain this information?		
Internet	39	
Scientific seminars/ articles	25	
School/University	22	_
Family medicine	12	
What is the ratio of breast cancer in women?		
No idea/Not sure	97	43.8
1 per 8 women	60	27
1 per 10 women	43	19.5
1 per 20 women	13	6
1 per 4 women	8	3.7
In which age group do you think breast cancer is most common?		
12-20	2	1
21-30	23	10.5
31-50	135	60.9
50 ≤	33	15
No idea/Not sure	28	12.6
Where would you like to receive information about early diagnosis of breast cancer?		
Family medicine	83	37.6
School/university	66	29.9
Scientific articles/seminars	42	19
Internet	26	11.8
Friends/Family	4	2.1

Table 3. Knowledge and Opinions about BSE

	Number	Percentage
Have you heard about breast self-exam (BSE)?		
Yes	172	77.8
No	49	22.2
Do you have knowledge about BSE?		
Yes	131	59.3
No	90	40.7
If you have information about BSE, where did you get this information?		
School/University	81	
Internet/Social media tools	32	
Family	10	_
Scientific articals/seminars	8	
If you don't know about BSE, where would you like to get this information?		
Internet/Social media tools	38	
School/University	27	
Scientific articals/seminars	23	_
Family Medicine	2	
Have you applied BSE on yourself?		
Yes	73	33.5
No	147	66.5
If you have not applied BSE, what is the reason?		
Didn't have enough knowledge	93	
Did not consider it necessary	20	
Could not spare time for performing it	14	_
Others…	20	

Discussion

Breast cancer is a major health problem worldwide. It is the most common cancer detected among women. Approximately one-eighth of all women are at lifelong risk of developing breast cancer, and one-third are at the risk of dying from it (6). BSE is stopped for recommendation for early detection of breast cancer by the American Cancer Society (ACS) (7) and WHO (8) due to the confusing results of the evidence. However, WHO pointed out awareness and accessing care as a primary step in early cancer recognition (9). While BSE is no longer among the ACS recommendations, the ACS mentioned that women should become familiar with their breasts and report any noticeable changes to their healthcare professional as soon as possible (7). In Türkiye, the Ministry of Health advises healthcare professionals to advise women on how to practice BSE to increase their awareness of their own breasts (10). BSE, which should be performed monthly after the age of twenty, is a simple, free, safe and non invasive method which requires no extra-materials for examining or investing much time (11). Raising awareness of breast health and cancer in young populations, such as university students, is therefore critical (12).

Different results have been reported worldwide and also in our country about knowing and practicing BSE, which is one of the easiest and useful method of breast cancer screening. According to reported studies, the rate of performing BSE has been reported in the range of 10–44.2% (13, 14). In Türkiye, many studies regarding breast cancer education have been conducted and their results have been reported; these are generally concerning BSE and the effectiveness of education on behavioral changes. According to the results of these studies on breast cancer awareness; performing the BSE rate was between 10.2 and 84.1%. When asked why it was not performed, it was reported that the participants could not perform this examination since it was not very well known how to be performed in the range of 50–71% (15–20). In the recent study, for the whole cohort, the rate of practicing BSE has been 33.2%. In the literature, the source of BSE information varies according to the study group. In studies regarding BSE, in which participants included people applying to health institutions or students receiving health education, obtaining information from health personnel and social media tools such as television and newspapers took the first place. When the ways of obtaining information, about BSE were asked in the current study, obtaining information from educational institutions (schools, universities, etc.) ranked first with 36.5% and the social media/internet ranked second with 14.4%, respectively (21, 22). It was reported that women's reluctance to perform BSE was related to their anxiety of finding a mass and not knowing how to act in this situation; their knowledge regarding breast examination was insufficient, and as a result of the study, this situation can be reduced by education (21). In a study in which midwifery students participated, the reasons for not performing BSE were reported as follows: Not having enough knowledge about BSE; the thought of not being at risk for breast cancer, having anxiety for finding a mass or a suspicious sign for cancer as a result of BSE, not having enough time for performing BSE; or forgetting to perform BSE (23). In our cohort, it was determined that 33.2% of the participants performed BSE, and when asked regarding their level of certainty for performing BSE, only 3.7% of them were sure of their BSE, which was a very low level for being sure of their examinations. In the study of Aydoğdu et al. (23), when the students' BSE performance status was examined according to their class level, it was observed that the BSE rate increased as the class level increased. Similarly, in our study, 50% (n = 26) of clinic students reported performing BSE, whereas 27.8% (n = 47) of preclinical students reported doing so.

The best time for BSE is 5-7 days after menstruation, when the breasts are not tender and tight (24). In a study examining the practices and attitudes of doctors and nurses working in the province of Istanbul towards BSE, it was determined that 41% of the nurses and 38% of the doctors did not perform BSE at the right time (25). In a study conducted with university students, 54% stated that they performed BSE after menstruation (26). In the study of Aydoğdu et al. (23) on midwifery students, it was seen that they mostly gave wrong answers to the questions about at what age to start BSE and when to do it in menstruating women, and the reason for this situation was shown as the lack of knowledge of BSE in the lower-class students. In our study, 41.9% (n = 80) of the students stated that BSE should be done in the postmenstrual period, and 47.7% stated that BSE should be done from the age of 20.

In addition to its at no-cost and simple application, the above-mentioned conditions make us think that the early recognition potential of BSE has a considerable place in the lives of women, albeit relatively. This is especially true for low- to middle-income developing countries such as Türkiye, where socioeconomic realities make BSE inevitable and necessary. However, it should not be forgotten that BSE should be performed accurately and effectively to assist in the early diagnosis of breast cancer (27) Several trails have found that although women are cognizant of BSE, (28-31) factors such as lack of health cognizance, (32) negligence, concern of a cancer diagnosis (28), and lack of knowledge (29) lead to disorganized application or no application at all.

The fact that the study was conducted in a single faculty, and the limited number of (especially clinical students) participants, deserves to be mentioned as the limitations of the study.

Conclusion

As a result of the survey in which the knowledge, attitude, and behavior of medical school students about breast cancer and BSE were evaluated, it was

concluded that there is a lack of knowledge about breast cancer. Especially for developing countries, it is a cost-effective and effective screening method that can be useful in the early diagnosis of breast cancer when done correctly. Regarding BSE, it was also determined that the students were not sufficient for both self-application and knowledge.

Complete and comprehensive training health students, especially medical school students, who inform and guide the society about health, about BSE will contribute to the early diagnosis of breast cancer, increase health perception and behavior in the society.

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