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RESEARCH ARTICLE

A Cross-Sectional Analysis, Evaluating Women's Breast Cancer Awareness in İstanbul

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ABSTRACT

Objective: The aim of this study is to evaluate the awareness and comprehension of breast cancer, the screening program, and mammography among female academic staff members who work in an academic study center, as well as female patients who applied to the general surgery outpatient clinic with complaints unrelated to breast.

Materials and Methods: A breast cancer awareness survey consisting of 13 questions was administered to a total of 209 respondents, of which 100 were outpatient clinic group (OG) and 109 were academic group (AG). The SPSS 27.0 program was utilized in the statistical analyses.

Results: There was no statistically significant difference between the groups other than the level of education. Regarding the breast cancer awareness rates both groups have a similar rate of awareness above average, however, annual breast examination rates and mammography and/or ultrasonography screening rates were similarly around or below average.

Conclusion: "Lack of information", "neglect", "do not have problem" and "not believing it is necessary" were the main reasons for women who do not participate in breast cancer screening programs. Therefore more efforts should be made to increase breast cancer awareness and importance of early diagnosis to prevent breast cancer-related deaths.

Keywords: Breast cancer, breast cancer awareness, mammography screening

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INTRODUCTION

According to the World Health Organization's (WHO) "Global Cancer Incidence, Prevalence, and Mortality Measurement (GLOBOCAN) 2020" report, breast cancer (BC) is the most common women cancer throughout in the world as well as in Türkiye and a major cause of cancer-related death globally.[1–3] It is assumed that one out of every eight women has a risk for developing breast cancer throughout their lives all over the world.[4]

Although the incidence of breast cancer is high all over in the world and in western countries, 89% of women diagnosed with breast cancer are still alive five years after their diagnosis due to early detection and treatment. Mortality of breast cancer is mainly due to metastasis to vital organs, not the breast itself so early detection is extremely important in challenging breast cancer.[5]

In Türkiye it has been demonstrated that identifying women at risk of breast cancer and providing their regular involvement in cancer screening can reduce their morbidity and mortality from breast cancer.[6] The American College of Radiology (ACR) and the Society of Breast Imaging recommend annual screening mammography by the age of 40.[7–9] Research conducted in Türkiye demonstrates that breast cancer screening programs are not used enough. Even though early detection

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and screening services are available and free of charge within the national cancer screening program, women's participation in breast cancer screening is extremely low.[3,6,9–12]

The aim of this study was to examine the awareness and comprehension of breast cancer, the screening program, and mammography among female academic staff members who work in an academic study center, as well as female patients who applied to the general surgery outpatient clinic with complaints unrelated to breast.

MATERIALS and METHODS

A survey of 13 questions regarding knowledge about breast cancer awareness was performed on women in December 2023. A total of 209 respondents, of which 100 were outpatient group (OG) consisting of patients with breast-non-related complaints and 109 were academic group (AG) consisting of female academic staff of our university. The survey questioned about age, family history of breast cancer, whether mammography and breast examinations were performed, age of first menarche, number of children, menopause status and birth control method used (Table 1).

Ethics Committee

In order to implement this research with the approval of the non-interventional clinical research ethics committee of İstanbul Aydın University on 13.12.2023 and number 2023/160, the necessary organizational permission and informed consent were obtained from the women participating in the research. The study was performed in accordance with the Declaration of Helsinki.

Statistical Method

Our research is a Case Control research, values like mean, standard deviation, median, lowest, highest, frequency and ratio were used in the descriptive statistics of the data. The distribution of variants was measured with the Kolmogorov-Simirnov test. The Mann-Whitney U test was employed to analyze quantitative independent data. Chi-square test was used in the analysis of qualitative independent data. The SPSS 27.0 program (IBM Corp., Armonk, NY, USA) was utilized in the analysis.

RESULTS

The age of patients and the age of the first menarche were not statistically significantly different between two groups (p>0.05).

There was no statistically significant difference between groups regarding marital status and number of children (p>0.05). The academic group had a considerably larger proportion of youngsters compared to the polyclinic clinic group (Table 2).

There was no statistically significant difference between groups in understanding the prevalence of breast cancer in women or the proportion of first-degree relatives with breast cancer (p>0.05) (Table 2).

The number of prior breast USG/mammography examinations, the age at which USG or mammography was conducted and contraceptive use/menopause rates did not differ significantly between groups (p>0.05) (Table 2).

The only significant difference was that AG had considerably higher education levels compared to the OG (p<0.05) however this was not the case in annual breast examination as there was no statistically significant difference between groups regarding annual breast examination, the rates were as low as 53% and 54% in OG and AG respectively (Table 2).

DISCUSSION

Breast cancer is the most common cancer and the main cause of cancer-related mortality in women throughout whole world as well as in Türkiye. When diagnosed in the early stages it has a high 5-year survival rate. Breast cancer screening is shown to reduce mortality by 20% in average-risk women of all age groups.[13] Randomized studies show that mammography screening lowers breast cancer mortality among women aged 39–59 and 60–69 by 15% and 32%, respectively.[6] The Breast Cancer Screening Guides which are created to promote early detection and treatment of breast cancer suggest an annual breast examination and mammographic screening every two years.[7,8,14] Bahcesehir mammographic screening program (BMSP) which was the first organized population-based, long-term mammographic screening program in Türkiye revealed that mammography screening had a positive impact on shifting the stage range of Turkish breast cancer survivors as detected tumors were smaller in size with less frequent axillary node involvement.[3] As Türkiye has a relatively young population as a whole almost 50% of all invasive breast cancers are diagnosed in women younger than 50 years of age whereas only 25% of all invasive breast cancers occur in the same age group in US.[3] As compared to nations with population-based screening pragrams, countries with little to no screening and low awareness of breast cancer are known to diagnose cases of the disease at a later stage. Early breast examination and screening has a major importance for early diagnosis. This can be achieved by high rates of breast cancer awareness and participation in screening programs.[3]

In Türkiye, standards for breast cancer screening were published by the Ministry of Health in 2004, similar to those in the European Union. Mammographic screening is

Table 1. Survey of 13 questions

	Min-max	Median	Mean±SD	n	%
Age					
15–25				44	21.1
25–40				81	38.8
40–50				39	18.7
50–60				30	14.4
≥60				15	7.2
First menarche	9.0–17.0	13.0	13.3±1.4		
Educational status					
Primary school				11	5.3
High school				21	10.0
Middle school				7	3.3
University				99	47.4
Master's/Ph.D.				71	34.0
Marital status					
Single				123	58.9
Married				86	41.1
Child					
(–)				107	51.2
(+)				102	48.8
Number of children	1.0–5.0	2.0	1.7±0.7		
Having an idea about the frequency of breast cancer in women					
(–)				39	18.7
(+)				170	81.3
A first-degree relative with breast cancer					
(–)				169	80.9
(+)				40	19.1
Have you ever had a breast examination?					
(–)				97	46.4
(+)				112	53.6
Previous breast USG/mammography screening					
(–)				103	49.3
(+)				106	50.7
Mammography				39	36.8
USG				29	27.4
USG+ Mammography				3	2.8
Lack of knowledge				35	33.0
Age of performing USG and mammography	20.0–60.0	40.0	35.0±10.1		
Regular breast examination every year					
(–)				82	75.2
(+)				25	22.9
Lack of information				2	1.8

SD: Standard deviation; USG: Ultrasonography

recommended between the ages of 50–69 and every two years. Afterwards, it was determined that unlike European countries, the population in our country is young and approximately half of the breast cancer cases are under the age of 50 and in the premenopausal period. In 2012, the breast cancer screening program was rearranged to start

Table 2. Results of 13 question survey on outpatient group (OG) and academic group (AG)

	OG				AG				p	
	Mean±SD	n	%	Median	Mean±SD	n	%	Median		
Age										
15-25		24	24.0			20	18.3		0.265	X^2
25-40		40	40.0			41	37.6			
40-50		21	21.0			18	16.5			
50-60		10	10.0			20	18.3			
60 year and higher		5	5.0			10	9.2			
First menarche	13.2±1.4			13.0	13.4±1.3			13.0	0.346	m
Educational status										
Primary school		9	9.0			2	1.8		0.000	X^2
High school		19	19.0			2	1.8			
Middle school		3	3.0			4	3.7			
University		69	69.0			30	27.5			
Master's/Ph.D.		0	0.0			71	65.1			
Marital status										
Single		60	60.0			63	57.8		0.747	X^2
Married		40	40.0			46	42.2			
Child										
(-)		59	59.0			48	44.0		0.031	X^2
(+)		41	41.0			61	56.0			
Number of children	1.8±0.8			2.0	1.5±0.6			1.0	0.117	m
Having an idea about the frequency of breast cancer in women										
(-)		21	21.0			18	16.5		0.406	X^2
(+)		79	79.0			91	83.5			
A first-degree relative with breast cancer										
(-)		83	83.0			86	78.9		0.452	X^2
(+)		17	17.0			23	21.1			
Have you ever had a breast examination?										
(-)		47	47.0			50	45.9		0.870	X^2
(+)		53	53.0			59	54.1			
Previous breast USG/Mammography screening										
(-)		55	55.0			48	44.0		0.113	X^2
(+)		45	45.0			61	56.0			
Age of starting USG or mammography	34.5±9.5			40.0	35.4±10.5			40.0	0.728	m
Contraceptive use										
(-)		93	93.0			103	94.5		0.655	X^2
(+)		7	7.0			6	5.5			
Menopause										
(-)		77	77.0			81	74.3		0.651	X^2
(+)		23	23.0			28	25.7			

*: The distribution of variants was measured with the Kolmogorov-Simirnov test. The Mann-Whitney U test was employed to analyze quantitative independent data. Chi-square test was used in the analysis of qualitative independent data. SD: Standard deviation; USG: Ultrasonography

screening at the age of 40 for women who are not in the high-risk group and to perform screening every two years between the ages of 40–69.[15,16]

Many researchers have found that poor breast cancer awareness and involvement in screening programs is due to a lack of education and comprehension.[10,11] Acikgoz et al.[17] discovered that despite varying education levels, the majority of women (81.4%) were familiar with breast cancer early diagnosis and screening methods. Another regional research indicated that 93% of women in the intermediate socioeconomic level population living in urban areas were familiar with breast cancer early diagnosis and screening procedures. In our study, the population was selected between both academic -highly educated- women as well as the patient group to achieve a diverse, heterogeneous population to reflect an average for Türkiye and results were also consistent with prior research as the rates of knowing the prevalence of breast cancer in women were high in both groups (PG 79% and AG 83.5%) without any statistically significant difference although the level of education had a statistically significant difference. Despite AG's high level of education, it was discovered that their involvement in breast cancer examination and breast cancer screening programs was insufficient in both groups with no significant difference.

Among the reasons in the research why women do not participate in breast cancer screening programs were "lack of information", "neglect", " do not have problem" and "not believing it is necessary" were the main reasons.

CONCLUSION

According to the findings of this research, the level of education has similar effects on awareness of breast cancer in our country, however high awareness levels are not correlated with participation in cancer screening programs and breast examinations, therefore more efforts should be made to acknowledge the women population about the advantages of participating in breast cancer screening programs to reduce morbidity and mortality caused by breast cancer.

Disclosures

Ethics Committee Approval: The study was approved by the İstanbul Aydın University Non-interventional Clinical Research Ethics Committee (No: 2023/160, Date: 13/12/2023).

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