Original Article

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Barriers on Breast Cancer Early Detection Methods

Yasemin Erkal Aksoy[1], Esin Çeber Turfan[2], Ebru Sert[3], Gülengül Mermer[4]

[1]Department of Obstetrics, Selçuk University Faculty of Health Sciences, Konya, Turkey
[2]Department of Obstetrics, Ege University İzmir Atatürk School of Health, İzmir, Turkey
[3]Department of Obstetrics, Ege University Graduate School of Health Sciences, İzmir, Turkey
[4]Department of Nursing, Ege University Faculty of Nursing, İzmir, Turkey

ABSTRACT

Objective: Breast cancer is the most common type of cancer in women throughout the world. It is the second leading cause of cancer related deaths, after lung cancer. Breast cancer is the most common cancer in women in Turkey with a rate of 23,4%. One out of every four women has breast cancer. This study was conducted to determine the barriers on methods of early diagnosis of breast cancer.

Materials and Methods: The research population consisted of women over the age of 40 years who live in the neighborhood of Doğanlar (N=2404). The sample size was determined (n=251) with Epi İnfo Statcalc account program with 95% confidence interval, with the incidence of breast cancer accepted as 24%. Women over the age of 40 years who agreed to participate were included in the study. In order to collect the necessary data, a 27-item questionnaire including socio-demographic characteristics and methods of early diagnosis was created according to the literature. This study was conducted between March-October 2012 in Doğanlar neighborhood.

Results: Two-hundred-fifty-four women participated in the study, with a mean age of 54,27±1, and an average monthly income of 895,0197 TL (min=0 TL, max=7000 TL). 79,1% were married, 89,8% were housewives, 56,7% were literate, and 83,1% had health insurance. The status of performing regular Breast Self Examination (BSE) was significantly higher in women who had knowledge about BSE, (p=0.000). Married (p=0.015) women and those who had a social security system (p=0.048) had significantly higher rates of mammography. Women who were informed on mammography (p=0.000) had significantly higher rates of mammography. When reasons for not getting mammography was addressed, it was observed that 99,2% was due to lack of information and education. Women who had regular BSE had significantly higher Clinical Breast Examination (CBE) (p=0.024). Women's sociodemographic characteristics did not affect the status of performing regular BSE and CBE significantly.

Conclusion: Barriers against implementation of breast cancer screening methods in women were related to level of education and lack of adequate information about breast cancer screening, and symptoms of breast cancer. Women's lack of information about signs, symptoms and treatment in the early stages of breast cancer needs to be eliminated. Health care providers may have a key role in increasing breast cancer early detection rates.

Keywords: Breast cancer, early detection, barriers

Introduction

Breast cancer is the most common type of cancer seen among women in the world. It is the second leading cause of cancer death in women, after lung cancer (1, 2). Breast cancer ranks first among cancers seen in women in Turkey with a rate of 23.4%. One in every four women has breast cancer (3).

World Health Organization and International Agency for Research on Cancer report that, at least, 1/4 of all cancers can be prevented and 3/4 can be treated with existing knowledge, technology, and interventions based on screening in the next 20 years (4-6).

While some cancers seen in under-developed countries (liver, stomach, esophagus), offer poor prognosis, some cancers, seen in developed countries (prostate, breast, colorectal) have high survival rates in spite of high incidence rates (1, 6, 7). This result is related to early diagnosis and screening programs in developed countries (2, 4, 6).

Some type of cancers such as breast cancer can be diagnosed with a basic scan and be treated in a short time. Systematic screening programs are effective in the early diagnosis of breast cancer, in reducing the burden of disease in the community and in reducing the mortality (1, 3).

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Address for Correspondence:
Yasemin Erkal Aksoy, Department of Obstetrics, Selçuk University Faculty of Health Sciences, Konya, Turkey
Phone: +90 332 223 35 30 e-mail: ebeyaseminerkal@hotmail.com

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The early diagnosis practices in breast cancer such as mammography, clinical breast examination (CBE) and breast self-examination (BSE) are vital in reducing cancer related death by providing early detection of breast cancer (1, 8).

American Cancer Society and the American Cancer Institute encourage women who show no signs to get a mammography each year at 40 years old and above, every three years at 20 to 40 years old, and then to get CBE once a year after 40 years old to be implemented by health-care workers trained in this regard. They also suggest that women should perform BSE starting from the age of 20, after being trained by health professionals (9, 10).

Early detection and screening is vital but there are some obstacles such as economic, cultural and personal factors. Identification of women's obstacles to the implementation of early diagnostic methods of breast cancer will give an opportunity to health care planning and create a resource to other areas. This research was conducted to determine the obstacles of breast cancer early detection methods.

Materials and Methods

This study is a cross-sectional field research, applied to women over 40 years old, living in a neighborhood of Izmir, between March and October 2012.

The study population consists of women over the age of 40 (N = 2404) years living in this neighborhood. Using Epi Info Statcalc calculator program (Epi Info, Atlanta, USA), the sample size was calculated as n = 251 with a breast cancer incidence rate of 24%, and with 95% confidence interval. 254 women over 40 years old were included into the study, after receiving their verbal informed consent. A 27-item questionnaire, prepared according to the literature, containing socio-demographic characteristics and breast cancer screening methods, was used to collect the required data.

The questionnaires were applied to 30 people apart from the research group, as a preliminary-application, and incomprehensible statements were corrected. The researchers were out to the area at 10:00 hours on certain days of the week, and filled-in the questionnaire with one-to-one interviews at homes. Participation is on a voluntary basis and verbal consent was obtained from patients who agreed to participate in this research study. Those women who could not be found at home and those who did not accept to participate in the study were excluded. The required permissions to collect data in the study region were obtained from Non-Invasive Clinical Research Board, İzmir Tepecik Training and Research Hospital, Ministry of Health of Turkey, and Directorate of Health Affairs, Bornova Municipality, that is responsible for the region.

Statistical Analysis

Statistical analyses were performed using SPSS 16.0 (SPSS Inc. Chicago, Illinois, USA) software package, the correlation between socio-demographic data and regular BSE, CBE and mammography were evaluated using chi-square analysis.

Results

The mean age of 254 women participating in the study was 54.27 ± 1, and the average monthly income was 895.02 Turkish Lira (TL) (min = 0 TL, max = 7000 TL). Seventy-nine percent of them were married, 89.8% were housewives, and 56.7% were literate only, and 83.1% had health insurance.

Socio-demographic characteristics of women did not affect significantly their status of exercising regular BSE and status of getting CBE. Status of getting mammography is significantly high in women who were married (p = 0,015) and had social security system (p = 0, 048) (Table 1). Fifty-three percent of women had information about BSE. When reasons for not getting mammography were addressed, it has been shown that 99.2% resulted from lack of information and education.

Status of practicing BSE regularly was significantly higher in those with information about BSE (p = 0,000). Women younger than or equal to 49 years of age were found to have significantly higher BSE information status as compared to those who were older than or equal to 50 years old (p = 0,020). A significant difference was found when women's level of education was compared to their status of BSE information (Table 2).

The status of getting mammography was significantly higher in women with information on mammography (p = 0,000) (Table 3). The status of getting CBE was found to be significantly higher in women who practiced regular BSE (p = 0.024) (Table 4).

Discussion and Conclusion

Four out of five women who participated in the study (83.1%) had health insurance. The levels of getting mammography of those who had health insurance were found to be high. The level of getting mammography was significantly higher in women who were married and had health insurance. Marital status of women or not having health insurance may interfere with status of getting mammography. Schootman et al. (11) found that status of health insurance affected the access to health care. Achat et al. (12) stated in their study that the rate of getting mammography was higher in women who were married or in a relationship (77.2%) than those who were single or divorced.

Women's descriptive characteristics did not significantly affect their status of practicing regular BSE and getting CBE. The status of practicing regular BSE, getting CBE and mammography were all significantly higher in women who were informed about these methods. Knowledge on breast cancer early diagnosis methods leads to application of these methods by women. 31.9% of women who participated in the study practiced BSE regularly. These findings are supported by similar studies (13, 14). 53.1% of women who participated in our study had knowledge about BSE while 86.4% of women who participated in study conducted by Ozen et al. (15) had knowledge about BSE. Forty-four percent of women had CBE at least once throughout their lifetime. However, Yavan et al. (16) reported that 33.0% of women (16) had CBE. Forty-seven percent of women who participated in our study did not have any information about mammography. Sixty-one percent of them did not get any mammography. Mammography rate in similar studies were also found to be low in parallel with our study (13, 14).

The most important barriers against obtaining screening mammography were lack of information about breast cancer and low level of education in 99.2% of women. Rızalar and Altay (17), and Meissner et al. (18) also stated in their studies that lack of knowledge on breast cancer was the main reason of not to obtain mammography.

The status of BSE knowledge in the group of women who were 49 years old and younger was significantly higher than those who

Table 1. Demographic cahracteristics, Regular BSE, CBE and Mammography Performance Status

	Had Regular BSE (n:)		Did not have regular BSE (n:)		Had CBE (n:)		Did not have CBE (n:)		Had Mammography (n:)		Did not have mammography (n:)	
Properties	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Age group	χ^2=0.088, p=0.767				χ^2=0.029, p=0.865				χ^2=0.321, p=0.571			
49 and below	11	12.6	76	87.4	39	44.8	48	55.2	36	41.4	51	58.6
50 and above	19	11.4	148	88.6	73	43.7	94	56.3	63	37.7	104	62.3
Family type	χ^2=0.273, p=0.601				χ^2=0.802, p=0.371				χ^2=1.772, p=0.183			
Core family	21	12.6	146	87.4	77	46.1	90	53.9	70	41.9	97	58.1
Other	9	10.3	78	89.7	35	40.2	52	59.8	29	33.3	58	66.7
Education status	χ^2=2.483, p=0.289				χ^2=0.854, p=0.652				χ^2=4.490, p=0.106			
Illiterate	13	9.0	131	91.0	60	41.7	84	58.3	48	33.3	96	66.7
Primary/Junior high gradutae	16	15.5	87	84.5	49	47.6	54	52.4	48	46.6	55	53.4
High school and ↑	1	14.3	6	85.7	3	42.9	4	57.1	3	42.9	4	57.1
Marrital status	χ^2=1.169, p=0.346				χ^2=2.789, p=0.095				χ^2=5.878, p=0.015			
Married	26	12.9	175	87.1	94	46.8	107	53.2	86	42.8	115	57.2
Single (Widowed/Divorced)	4	7.5	49	92.5	18	34.0	35	66.0	13	24.5	40	75.5
Occupation status	χ^2=0.355, p=0.524				χ^2=0.373, p=0.541				χ^2=0.003, p=0.955			
House-wife	26	11.4	202	88.6	102	44.7	126	55.3	89	39.0	139	61.0
Other (Working)	4	15.4	22	84.6	10	38.5	16	61.5	10	38.5	16	61.5
Social security	χ^2=1.161, p=0.436				χ^2=0.105, p=0.746				χ^2=3.905, p=0.048			
Had social security	27	12.8	184	87.2	94	44.5	117	55.1	88	41.7	123	58.3
Did not have social security	3	7.0	40	93.0	18	41.9	25	58.1	11	25.6	32	74.4

BSE: Breast Self Examination
CBE: Clinical Breast Examination

Table 2. Demographic characteristics and BSE performance status according to knowledge on BSE

	BSE knowledge					
	Yes		No		Total	
Properties	**No**	**%**	**No**	**%**	**No**	**%**
Regular BSE Performance status	χ^2=29.986, p=0.000					
Performed (n:)	30	22.2	0	0.0	30	11.8
Did not perform (n:)	105	77.8	119	100.0	224	88.2
Age group	χ^2=5.387, p=0.020					
49 and below	55	40.7	32	26.9	87	34.3
50 and above	80	59.3	87	73.1	167	65.7
Education status	χ^2=22.866, p=0.000					
Illiterate	58	43	86	72.3	144	56.7
Primary/Junior high graduate	71	52.6	32	26.9	103	40.6
High school ↑	6	4.4	1	0.8	7	2.8

BSE: Breast Self Examination

Table 3. Influence of awareness of mammography on obtaining mammography

Properties	Had mammography (n:)		Did not have mammography (n:)		Total	
	No	%	No	%	No	%
Mammography knowledge status	χ^2=1.138, p=0.000					
Yes	94	69.6	41	30.4	135	53.1
No	5	4.2	114	95.8	119	46.9

Table 4. Influence of performing regular BSE on obtaining CBE

Properties	Had CBE (n:)		Did not have CBE (n:)		Total	
	No	%	No	%	No	%
Regular BSE	χ^2=5.108, p=0.024					
Yes	19	63.3	11	36.7	30	31.9
No	93	41.5	131	58.5	224	68.1

KKMM: Kendi Kendine Meme Muayenesi
KMM: Klinik Meme Muayenesi

were 50 years old and above. This condition was associated with the women's level of education. There are significant differences among BSE knowledge, age, education and marital status in many studies (12, 15, 19, 20, 21).

This study showed that barriers against implementation of breast cancer screening methods in women were related to lack of knowledge about these methods. The level of education and lack of adequate information about breast cancer screening, and symptoms of breast cancer may result in late diagnosis. Health care providers may have a key role in increasing breast cancer early detection rates.

Ethis Committee Approval: To put the research in practise permission is taken from Turkish Republic Ministry of Health İzmir Tepecik education and research hospital non- interventional (invasive) clinical research ethic council and Municipality of Bornova to whom the district is related.

Informed Consent: Participation is on a voluntary basis and verbal consent was obtained from patients who agreed to participate in this research study.

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