

## Hastane Temizlik Personelinin Meme Kanseri ve Tarama Testlerine Farkındalıkları

### Awareness of Hospital Cleaning Staff on Breast Cancer and Screening Tests

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#### ÖZ

**Amaç:** Bu çalışmanın amacı hastanede çalışan temizlik personelinin meme kanseri-tarama testi bilgisi ve tarama yaptırma durumlarını sosyodemografik özellikler açısından karşılaştırmaktır.

**Materyal ve Metot:** Tanımlayıcı kesitsel tipte araştırmadır. Veriler, araştırmacılar tarafından literatüre uygun olarak hazırlanan anket formu ile toplanmıştır. Bir il merkezindeki ikinci basamak sağlık hizmeti sunan kurumdaki temizlik personelinin %82,5 oranındaki (toplam çalışan sayısı 160 kişidir) gönüllü katılımıyla gerçekleştirilmiştir.

**Bulgular:** Katılımcıların %74,2'si tarama yöntemlerini bildiklerini belirtmişlerdir. Meme kanseri belirtilerini bilme ve taramaların yapıldığı yeri bilme değişkenleri tarama testi yaptırması açısından önemli bulunmuş ailede kanser öyküsünün olup olmaması ve erken teşhisin öneme inanıp inanmama önemli bulunmamıştır.

**Sonuç:** Hastanede çalışan personelin meme kanseri-tarama testleri bilgileri ve tarama yaptırma davranışları pek çok sosyodemografik özellik açısından fark oluşturmamaktadır.

**Anahtar Kelimeler:** Hastane temizlik personeli, meme kanseri, tarama testi

#### ABSTRACT

**Objective:** The aim of this study was to compare the knowledge of hospital cleaning staff on breast cancer and screening test and their status of undergoing screening in terms of socio-demographic characteristics.

**Materials and Methods:** This is a descriptive cross-sectional study. The data were collected with a questionnaire form prepared by the researchers in accordance with the literature. The study was conducted with the voluntary participation of 82.5% of the cleaning staff (the total number of employees is 160 individuals) in an institution providing secondary health care in a city center. The type I error level was set at 0.05.

**Results:** Of the participants, 74.2% stated that they knew about the screening methods. The variables of knowing breast cancer symptoms and the place where screenings are performed were significant in terms of having a screening test, while the presence of a history of cancer in the family and whether to believe in the importance of early diagnosis were not significant.

**Conclusion:** The knowledge of hospital staff on breast cancer and screening test and their behaviours of having screening does not make any difference in terms of many socio-demographic characteristics.

**Keywords:** Breast cancer, hospital cleaning staff, screening test

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## INTRODUCTION

In addition to the high rates of mortality and morbidity, cancer is considered as an important public health problem in all countries of the world in terms of treatment cost, duration, and side effects.<sup>1,2</sup> In the Global Cancer Statistics 2020 data,<sup>3</sup> it is reported that 1 in 5 people develop cancer during their lifetime. These new estimates suggest that more than 50 million people are living within five years of a past cancer diagnosis. The cancer mortality rates for other parts of the world are reported to be 57.3% for Asia and 7.3% for Africa.<sup>4</sup> The projections show that these increases will be persistent in 2030 and cancer will rank first in terms of mortality causes.<sup>5</sup> In the conveyance by Linsley et al. it is reported that breast cancer accounts for 25% of all cancer cases in women worldwide and 15% of deaths from cancer.<sup>6</sup>

The breast cancer rate for Turkey's eastern regions is 20/100.000, while this rate for the western regions is 40-50/100.000.<sup>7</sup> The lifetime risk of developing any cancer for an individual living in Turkey is 38.46%.<sup>8</sup> In the study by Gultekin et al., 52% of the participants marked cancer as the most fatal disease, and the majority of the population stated that they obtained their current knowledge of cancer through televisions.<sup>9</sup> In the study by Tekpinar et al., it was attempted to raise awareness in individuals with the training on breast cancer and screening tests and it was reported that the rate of those who stated that they will have breast cancer screening after two training was only 7%.<sup>10</sup> In the same study, it was reported that the variable of having breast cancer in the family was among the reasons for desiring to have screening. In another study conducted to measure cancer awareness locally, it was concluded that of the participants, 68% had at least one relative with cancer, 74% considered cancer as an incurable disease, 72% did not know about cancer screening programs and 88% never had cancer screening.<sup>11</sup>

The present study, on the other hand, aimed at determining the awareness of the hospital cleaning staff who did not receive health education but were believed to have created a visual subconscious about breast cancer. For this reason, this study in hospital cleaning staff was designed to reveal the effect of socio-demographic characteristics both on visual learning and experiencing what is learned.

## MATERIALS AND METHODS

In this study designed as quantitative research, the descriptive cross-sectional method was used. The data of the study were collected between 20 February and 01 April 2020. Before the study, written permissions were obtained from the Giresun University Clinical Research Ethics committee in the city center and from the health directorate of the hospital where the staff work (Date:12.02.2020, decision no: 06.02.2020/02). The participants were informed in writing with the

“informed consent form”. All procedures performed in this retrospective study involving human’s data were in accordance with the ethical standards of the institutional committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

The number of cleaning staff working in the hospital where the study was conducted was 160 individuals, the sample was not employed, and the study was not completed with 132 individuals who filled the survey form voluntarily (Response rate: 82.5%). The survey form used in the study was prepared by the researchers. The first questions consisted of nine questions about socio-demographic characteristics (age, gender, educational level, long-term residence, marital status, family type, income level, habits). The remaining eleven questions included questions about breast cancer and its screening (family history of breast cancer, knowing/using breast cancer symptoms-screening methods, knowing where the screening is performed, the sensation felt during screening, believing in the importance of early diagnosis). The independent variables of the study consisted of socio-demographic characteristics and the dependent variables of the study consisted of questions related to knowing breast cancer -screening tests and having the screenings.

The data were analyzed with the SPSS 22 software. Descriptive variables were given as numbers and percentages. In the comparison of dependent and independent variables, chi-square analysis was performed. Bonferroni correction was made for multiple groups that differed in chi-square analysis. Type 1 error level was set at  $p < 0.05$ .

## RESULTS

The number of volunteer participants in the study is 132 people. The mean age of the participants in the study was  $37.19 \pm 6.56$  years (Min: 24 years Max: 54 years). The mean duration of service in the profession was  $3.22 \pm 4.43$  years (Min: 1 year-Max: 23 years). The rate of females was 81.1%, and 92.4% stated that they are married (Table 1).

Table 2 shows the responses of the participants to the questions regarding breast cancer awareness. The rate of those with a family history of breast cancer was 9.1%, and 3.8% reported that their mother had breast cancer, 1.5% reported that their siblings had breast cancer, and 3.8% reported that other family members had breast cancer. Of the participants, 74.2% stated that they knew about breast cancer screening methods. The method known (more than one) was reported by 73.5% as breast self-examination, by 3.8% as clinical breast examination, by 34.1% as breast ultrasound, by 40.9% as mammography, and by 16.7% as Magnetic Resonance Imaging (MRI). Of the participants, 63.6% stated that they had breast cancer screening. The screening methods (more than one) they underwent

**Table 1.** Distribution of participants according to some socio-demographic characteristics.

Characteristics		Number (n)	Percent (%)
<b>Age group</b> 37.19±6.56 years (min:24; max:54)	35 years and under	57	43.2
	36 years and over	75	56.8
<b>Gender</b>	Female	107	81.1
	Male	25	18.9
<b>Educational level</b>	Prim. school	65	49.2
	Sec. school	42	31.8
	High school	24	18.2
	University	1	0.8
<b>Tenure</b> 3.22±4.43 years (min:1-max:23)	1 years and under	77	58.3
	Between 2-10 years	45	34.1
	11 years and over	10	7.6
<b>Longest living area</b>	Village	1	0.8
	Town	19	14.4
	Province	112	84.8
<b>Marital status</b>	Married	122	92.4
	Single	8	6.1
	Widow	2	1.5
<b>Income level perception</b>	Low	104	78.8
	Moderate	27	20.5
	High	1	0.8
<b>Family type</b>	Nuclear	123	93.2
	Extended	7	5.3
	Fragmented families	2	1.5
<b>Smoking habit</b> 9.91±7.97 pieces per day (min:2, max:30)	Yes	34	25.8
	No	95	72.0
	Partially	3	2.3
<b>Alcohol habit</b>	No	129	97.7
	Partially	3	2.3
<b>The habit of using a drug without a prescription</b>	Yes	34	25.8
	No	98	74.2

**Table 2.** Responses of the participants to the questions about breast cancer awareness.

Characteristics		Number (n)	Percent (%)
<b>Status of knowing the symptoms of breast cancer</b>	Yes	71	53.8
	No	34	25.8
	Partially	27	20.4
<b>Having a family history of breast cancer</b>	Yes	12	9.1
	No	111	84.1
	I don't know	9	6.8
<b>Status of knowing the screening methods</b>	Yes	98	74.2
	No	34	25.8
<b>Having screening</b>	Yes	84	63.6
	No	48	36.4
<b>Frequency of the method used</b>	Once a month	49	58.3
	Once a year	21	25.0
	Every three years	1	1.2
	Other	13	15.5
<b>Sensation felt during having the screening test</b>	Fear	22	29.7
	Embarrassment	13	17.6
	Anxiety	39	52.7
<b>Status of knowing the places where breast cancer screening tests are performed</b>	Yes	120	90.9
	No	12	9.1
<b>Believing in the importance of early diagnosis in breast cancer</b>	Yes	131	99.2
	No	1	0.8
<b>Do she want to learn breast cancer screening tests from healthcare personnel?</b>	Yes	116	87.9
	No	16	12.1
<b>Possibility of recommending breast cancer screening tests to those around herself</b>	I recommend	78	59.1
	I definitely recommend	52	39.4
	Not necessary	2	1.5

were reported by 60.6% as breast self-examination, by 1.5% as clinical breast examination, by 12.9% as breast ultrasound, by 10.6% as mammography, and by 3.8% as MRI. Almost all of the participants (131 individuals= 99.2%) stated that they considered early diagnosis important in breast cancer.

In terms of the breast cancer awareness variables (knowing the symptoms of breast cancer, knowing the screening methods and having the screenings), it was found that the duration of service in the profession, the place where the life was spent for a long time, marital status, perception of income level, family type and non

-prescription drug habit did not make any difference ( $p>0.05$ ), (Table 3).

Table 4 shows the distribution of the comparison of breast cancer awareness and screening behaviour. In the study, it was found that knowing the symptoms of breast cancer and knowing the place where screening is performed made a difference ( $p<0.05$ ), while a family history of breast cancer and believing in early diagnosis in breast cancer did not make any difference ( $p>0.05$ ).

**Table 3.** Distribution of some responses of the participants about breast cancer awareness according to descriptive Characteristics.

Characteristics	Knowing the Symptoms of Breast Cancer			Knowing Screenings		Having Screening		Sensation Felt in Screening			
	Yes n (%)	No n (%)	Partially n (%)	Yes n (%)	No n (%)	Yes n (%)	No n (%)	F n (%)	E n (%)	A n (%)	
<b>Age group</b>	n=132										
35 under	35 (49.3)	10 (29.4)	12 (44.4)	46 (46.9)	11 (32.4)	38 (45.2)	19 (39.6)	4 (18.2)	10 (76.9)	18 (46.2)	
36 over	36 (50.7)	24 (70.6)	15 (55.6)	52 (53.1)	23 (67.6)	46 (54.8)	29 (60.4)	18 (81.8)	3 (23.1)	21 (53.8)	
<b>Test Value *</b>	$\chi^2=3.727, p=0.155$			$\chi^2=2.189, p=0.139$		$\chi^2=0.398, p=0.528$		$\chi^2=11.773, p=0.003$			
<b>Gender</b>											
Female	70 (98.6)	15 (44.1)	22 (81.5)	97 (99.0)	10 (29.4)	83 (98.8)	24 (50.0)	21 (95.5)	13 (100.0)	39 (100.0)	
Male	1 (1.4)	19 (55.9)	5 (18.5)	1 (1.0)	24 (70.6)	1 (1.2)	24 (50.0)	1 (4.5)	0 (0.0)	0 (0.0)	
<b>Test Value *</b>	$\chi^2=44.441, p=0.001$			$\chi^2=79.574, p=0.001$		$\chi^2=47.400, p=0.001$		$\chi^2=2.396, p=0.302$			
<b>Duration of service In the profession (years)</b>											
1 under	45 (63.4)	19 (55.9)	13 (48.1)	57 (58.2)	20 (58.8)	49 (58.3)	28 (58.3)	12 (54.5)	7 (53.8)	23 (59.0)	
Between 2-10	19 (26.8)	12 (35.3)	14 (51.9)	33 (33.7)	12 (35.3)	27 (32.1)	18 (37.5)	6 (27.3)	4 (30.8)	14 (35.9)	
11 over	7 (9.9)	3 (8.8)	0 (0.0)	8 (8.2)	2 (5.9)	8 (9.5)	2 (4.2)	4 (18.2)	2 (15.4)	2 (5.1)	
<b>Test Value *</b>	$\chi^2=7.061, p=133$			$\chi^2=0.195, p=0.907$		$\chi^2=1.414, p=0.493$		$\chi^2=2.930, p=0.570$			

\*: Chi-Square test done; AR: Adjusted Rezdütte; <sup>a,b</sup>: Bonferroni correction was made; F: Fear; E: Embarrassment; A: Anxiety

**Table 3.** Distribution of some responses of the participants about breast cancer awareness according to descriptive characteristics (continue).

Edu. level	Yes (n)		Part. (n)		AR		No (n)		AR		Test Value *
	Yes (n)	AR	Part. (n)	AR	Yes (n)	AR	No (n)	AR			
Prim. school	32 (45.1)	17 (50.0)	16 (59.3)	2.7	10 (29.4) <sup>a</sup>	-2.7	44 (52.4)	21 (43.8)	13 (59.1)	10 (76.9)	$\chi^2=5.061, p=0.281$
Sec. school	25 (35.2)	11 (32.4)	6 (22.2)	-1.4	14 (41.2) <sup>a</sup>	1.4	25 (29.8)	17 (35.4)	5 (22.7)	3 (23.1)	
High school	13 (18.3)	6 (17.6)	5 (18.5)	-1.5	9 (26.5) <sup>a</sup>	1.5	15 (17.8)	9 (18.8)	4 (18.2)	0 (0.0)	
University	1 (1.4)	0 (0.0)	0 (0.0)	-1.7	1 (2.9) <sup>a</sup>	1.7	0 (0.0)	1 (2.0)	-	-	
<b>Test Value *</b>	$\chi^2=2.713, p=0.844$										
<b>Smoking habit</b>	Yes (n)		Part. (n)		AR		No (n)		AR		$\chi^2=3.684, p=0.159$
	Yes	14 (19.7) <sup>a</sup>	16 (47.1) <sup>a</sup>	4 (14.8) <sup>a</sup>	3.3	19 (19.4) <sup>a</sup>	-2.8	17 (20.2)	17 (35.4)	6 (37.3)	
	No	56 (78.9) <sup>ab</sup>	18 (52.9) <sup>ab</sup>	21 (77.8) <sup>ab</sup>	-2.9	76 (77.6) <sup>a</sup>	2.4	65 (77.4)	30 (62.5)	16 (72.7)	
	Partially	1 (1.4) <sup>ab</sup>	0 (0.0) <sup>ab</sup>	2 (7.4) <sup>a,b</sup>	-1.0	3 (3.0) <sup>a</sup>	1.0	2 (2.4)	1 (2.1)	0 (0.0)	
<b>Test Value *</b>	$\chi^2=14.695, p=0.005$										
<b>Alcohol habit</b>	Yes (n)		Part. (n)		AR		No (n)		AR		$\chi^2=2.710, p=0.607$
	No	71 (100.0)	31 (91.2)	27 (100.0)	0 (0.0)	98 (100.0)	0 (0.0)	84 (100.0)	45 (93.8)	-	
<b>Test Value *</b>	$\chi^2=8.848, p=0.012$										
<b>Test Value *</b>	$\chi^2=5.372, p=0.020$										

\*: Chi-Square test done; AR: Adjusted Residü; <sup>ab</sup>: Bonferroni correction was made; F: Fear; E: Embarrassment; A: Anxiety

**Table 4.** Distribution of the comparison between breast cancer awareness and screening behaviour .

Characteristic	Having Screening		Test Value*
	Yes n (%)	No n (%)	
<b>Knowing the Symptoms of Breast Cancer</b>	Yes	65 (91.5)	$\chi^2=57.780, p=0.001$
	No	6 (17.6)	
	Partially	13 (48.1)	
<b>Family History of Breast Cancer</b>	Yes	10 (83.3)	$\chi^2=2.370, p=0.306$
	No	69 (62.2)	
	I don't know	5 (55.6)	
<b>Believing in Early Diagnosis in Breast Cancer</b>	Yes	84 (64.1)	$\chi^2=1.763, p=0.184$
	No	0 (0.0)	
	Partially	47 (35.9)	
<b>Knowing Where Screenings are Performed</b>	Yes	80 (66.7)	$\chi^2=5.238, p=0.022$
	No	4 (33.3)	

\*\* : Chi-Square test done.

## DISCUSSION AND CONCLUSION

In the World Health Organization (WHO) 2015 report, it is stated that cancer is the first or second leading cause of death before the age of 70 years in 91 of 172 countries, and it ranks third or fourth in 22 countries. In the Global Cancer Observatory (GLOBOCAN) 2020 data, it is reported that breast cancer (18.0%) ranks first in cancer-related deaths, followed by stomach cancer (7.7%) and breast cancer (6.9%).<sup>3</sup> The study was conducted to determine the status of knowing breast cancer and screening methods and having a screening in the staff working as cleaning personnel in a hospital providing secondary health care and whether the socio-demographic characteristics make a difference in these.

In the studies comparing the knowledge of breast cancer symptoms and screening methods and having the screenings and socio-demographic characteristics, it is seen that the results both for Turkey and other countries show similarities as well as differences. This may be due to many reasons such as the design of the study, the characteristics of the sample groups, the variety of socio-demographic and cultural characteristics of the province or country where the study is conducted.

In a study conducted in a country with a low socioeconomic level, the variables of age, marital status and knowing breast cancer symptoms were reported to be effective in terms of having screening.<sup>12</sup> Other study conducted in Austria comparing women who were born in India and Austria, none of the variables of age, marital status, educational level, and employment status were found to be effective in terms of knowing breast cancer-screenings and having screenings.<sup>13</sup> In another study investigating the behaviours of South Asian immigrant women living in the USA, England, and Canada towards breast cancer screening, it was reported that the screening rates of these women were very low.<sup>14</sup> In a qualitative study conducted in Iran, it was revealed that in addition to personal barriers, socio-cultural barriers were still important in women's awareness of breast cancer.<sup>15</sup> In a study on healthcare professionals, the duration of working in the workplace, family history of breast cancer and breast cancer were found to be significant in terms of knowing breast cancer and having breast screenings, while the age, marital status, and educational status were not found to be significant.<sup>16</sup> As is seen, many socio-demographic characteristics cause differences in terms of knowing breast cancer-screening tests and having screening tests.

Although 74.2% of the participants in the present study stated that they knew breast cancer screening methods, the rate of women performing breast self-examination was 73.5%, (Table 2) while the rate of women having clinical breast examination was only 3.8%. The rate of those who had mammography was

40.9%. In men, the rate of those who knew the symptoms of breast cancer was 1.4%, the rate of those who knew the screening methods was 1.0%, and the rate of those who had screening was 1.2%. In a study conducted in the USA, it was emphasized that surveillance and epidemiology studies showed that the rate of breast cancer in men also increased in the last thirty years.<sup>17</sup> In another study conducted in Jordan, it was reported that of women, 50% performed breast self-examination, 28% had clinical breast examination, and 7% had mammography.<sup>18</sup>

Although the rate of the participants to see breast cancer cases at various levels in the hospital is higher than other individuals in the society, their breast cancer awareness was evaluated to be too below level. In addition, working in the hospital makes it easier for the staff here to receive information about the subject from the healthcare staff. In another study evaluating the status of hospital cleaning staff, 81.4% of these participants stated that they knew the screening methods; however, about half of the participants stated that they performed breast self-examination, 32.9% had clinical breast examination and 22.3% had mammography. In the studies conducted on society other than healthcare personnel in Turkey, the rate of performing breast self-examination was reported to be between 84.1% and 13.8%.<sup>1</sup> In the present study, there was a significant difference between knowing breast cancer and having breast screening. The rate of having screening for those who knew breast cancer was very high. However, it was found that a family history of breast cancer and believing in early diagnosis did not make any difference in terms of having screening ( $p>0.05$ ), (Table 4). In the study by Acikgoz, it was reported that those who stated that they knew breast cancer had screenings more.<sup>1</sup> In another study, it was stated that there was a fifty-fifty difference in terms of knowing breast self-examination (48.1%) and performing it (23.7%), in addition to the difference in terms of having mammography, and the rate of having mammography increased as the age increased.<sup>19</sup> In a study, it was stated that women who received information about the early diagnosis of breast cancer had an earlier age of starting breast self-examination and clinical breast examination and higher frequency of performing breast self-examination and having clinical breast examination, and higher rates of knowing the correct age for mammography.<sup>5</sup> In a study, it was reported that there was an inverse correlation between the socioeconomic status and the time to diagnosis and the stage of the disease, which is important for increasing the awareness of the individuals on the subject.<sup>20</sup> Although the age variable was not important in terms of knowing the symptoms of breast cancer, knowing the screening methods and having screening in the present study, it was determined to be a condition making a difference in terms of the sensation experi-

enced in the screening, and it was found that the group of 35 years and under felt embarrassment, while the group of 36 years and above felt fear. In a study by Gozuyesil et al. on women between the ages of 15-49 years, it was found that there was a correlation between age and anxiety, and the level of anxiety increased as the age increased.<sup>21</sup> In the literature, it has been stated that increased age is associated with breast cancer, and the 10-year risk of developing breast cancer for a woman is 1/250, which increases to 1/27 for a woman aged 70 years.<sup>22</sup> The expression of the correlation between breast cancer awareness and age in many cases (Both in face-to-face training and healthcare personnel training, and information via the media) suggests that it creates a sensitivity in the society in this respect and that the situation is comprehended. However, the absence of such a difference in this study can be explained by the fact that the sensation of the participants felt in breast cancer screenings comes to the forefront.

In a study comparing the community-based breast cancer screening activities of 26 of the 28 European Union countries, it was emphasized that there were risks that may lead to cancer inequalities, and the importance of informing and inviting was addressed to eliminate these differences.<sup>23</sup> In the study by Hersh et al. conducted as a randomized controlled study, it was stated that women who were informed had an increased rate of having screening tests.<sup>24</sup> As seen in Table 4, it was found that there was a difference between knowing where the screenings are performed and having breast cancer screening, and it was determined that those who knew where the screening is performed had a higher rate of having breast cancer screening. In a study, it was stated that 60.6% of the participants did not know The Cancer Early Diagnosis, Screening, and Education Centers (KETEM shorts commonly in Turkey), while those who knew KETEM stated that mostly mammography was performed in KETEM.<sup>2</sup> In a study conducted in the USA, it was found that the age of the participants to start mammography was behind the recommended age, and it was emphasized that mammography was important in decreasing the risk of death from breast cancer.<sup>25</sup> Despite having many advantages because of working in the hospital, we were found that the levels of breast cancer -screening knowledge and screening practice of the individuals were below level.

In conclusion, our results showed that the cancer programs carried out in Turkey the individuals are still uninformed and uninterested in resorting to preventive health measures. The study showed that those of the female gender have a high level of knowledge on breast cancer and screening and they have screening. However, none of the other socio-demographic characteristics made any difference. It is considered that it may be effective to ensure that individuals are obliged

to have at least clinical breast examination and mammography and are followed through identity records for awareness on the subject.

**Ethics Committee Approval:** Our study was approved by the Giresun University Ethics Committee (Date:12.02.2020, decision no: 06.02.2020/02).

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Author Contributions:** Concept -ÇY; Supervision - FG; Materials - ÇY, FG; Data Collection and Processing - ÇY, FG; Analysis and Interpretation - ÇY; Writing - ÇY, FG.

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## REFERENCES

1. Açıkgöz A, Çehreli R, Ellidokuz H. Determination of knowledge and behavior of women working at a hospital on breast cancer early detection methods, and investigation of efficiency of planned education. *J Breast Health*. 2015;11:31-38. doi:10.5152/tjbh.2014.2322
2. Erdem SS, Yılmaz M, Yıldırım H, et al. Information level on cancer and cancer risk factors living in Düzce. *DU Health Sci Inst*. 2017;7(1):01-10.
3. GLOBOCAN 2020. New Global Cancer Data. <https://www.uicc.org/news/globocan-2020-new-global-cancer-data#>. Access April 11, 2021.
4. Ferlay J, Colombet M, Soerjomataram I, et al. Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods 2019 *Int. J. Cancer*. 2018;144:1941-1953.
5. Güzel N, Bayraktar N. Determination of women's awareness and practices on early diagnosis of breast cancer. *Journal of Hacettepe University Faculty of Nursing*. 2019;6(2):101-110.
6. Torre LA, Bray F, Siegel RL, Ferlay J, Tieulent JL, Jemal A. Global Cancer Statistics, 2012. *A Cancer Journal for Clinicians*. 2015;65(2):87-108.
7. Kozan R, Tokgoz VY. Screening program and breast cancer awareness in Turkey. *ACU Health Sci J*. 2016;4:185-188.
8. Orun Y. Lifetime risk of developing cancer in Turkey. *Journal of Social Security*. 2017;6(12):108-124.
9. Gültekin M, Özgül N, Olcayto E, Tuncer M. Level of knowledge among Turkish people for cancer and cancer risk factors. *Journal of Turkish Society of Obstetrics and Gynecology*. 2011;8(1):57-61.
10. Tekpınar H, Aşık Z, Özen M. Evaluation of the patients who apply to family medicine polyclinic. *Turkish Journal of Family Practice*. 2018;22(1):28-36. doi:10.15511/tahd.18.00128
11. Merdin A, Avcı F. Social cancer and hematology awareness. *Turkish Journal of Oncology*. 2013;28(4):150-153.

12. Chebet KA, Magu DG, Mercy N, Monchama M, Habtu M. Utilization of breast cancer screening services among women attending centre hospital university Kigali, Nyarugenge District, Rwanda. *J Cancer Sci Ther.* 2019;11:43-49. doi:10.4172/1948-5956.1000582
13. Kwok C, Tranberg R, Lee FC. Breast cancer knowledge, attitudes and screening behaviors among Indian Australian women. *European Journal of Oncology Nursing.* 2015;19(6):701-706.
14. Crawford J, Ahmad F, Beaton D, Bierman AS. Cancer screening behaviours among South Asian immigrants in the UK, US and Canada: a scoping study. *Health and Social Care in the Community.* 2016;24(2):123-153.
15. Safizadeh H, Hafezpour S, Mangolian Shahrabaki P. Health damaged context: barriers to breast cancer screening from viewpoint of Iranian health volunteers. *Asian Pac J Cancer Prev.* 2018;19(7):1941-1949. doi:10.22034/APJCP.2018.19.7.1941
16. Zeru Y, Sena L, Shaweno T. Knowledge, attitude, practice, and associated factors of breast cancer self-examination among urban health extension workers in Addis Ababa, Central Ethiopia. *Journal of Midwifery and Reproductive Health.* 2019;7(2):1662-1672. doi:10.22038/jmrh.2019.32555.1355
17. Ferzoco RM, Ruddy KJ. The epidemiology of male breast cancer. *Curr Oncol Rep.* 2016;18(1):1-6. doi:10.1007/s11912-015-0487-4
18. Othman A, Ahram M, Al-Tarawneh MR, Shahrouri M. Knowledge, attitudes and practices of breast cancer screening among women in Jordan. *Health Care for Women International.* 2015;36(5):578-592.
19. Baycelebi G, Aydın F, Gökosmanoğlu F, Tat TS, Varım C. Cancer screening tests awareness in Trabzon. *J Hum Rhythm.* 2015;1(3):90-94.
20. Kuzhan A, Adlı M. The effect of socio-economic-cultural factors on breast cancer. *J Breast Health.* 2015;11:17-21. doi:10.5152/tjbh.2014.2293
21. Gözüyeşil E, Taş F, Ariöz Düzgün A. Factors affecting breast cancer worry and healthy lifestyle behaviors in women aged 15-49 years. *Cukurova Med J.* 2019;44(4):1215-1225. doi:10.17826/cumj.493360
22. Altekruse SF, Kosary CL, Krapcho M, Neyman N, Aminou R, Waldron W. SEER Cancer Statistics Review, 1975-2007, National Cancer Institute. Bethesda, MD, [https://seer.cancer.gov/csr/1975\\_2007/](https://seer.cancer.gov/csr/1975_2007/). Access May 22, 2020.
23. Deandrea S, Molina-Barceló A, Uluturk A, et al. Presence, characteristics and equity of access to breast cancer screening programmes in 27 European countries in 2010 and 2014. Results from an international survey. *Preventive Medicine.* 2016;91:250-263.
24. Hersch J, Barrat A, Jansen J, et al. Use of a decision aid including information on over detection to support informed choice about breast cancer screening: a randomised controlled trial. *The Lancet.* 2015;385(9978):1642-1652. doi:10.1016/S0140-6736(15)60123-4
25. Fedewa A, Goding Sauer A, Siegel RL, Jemal A. Prevalence of major risk factors and use of screening tests for cancer in the United States. *Cancer Epidemiol Biomarkers Prev.* 2015;24(4):637-652.