

Knowledge of women on early diagnosis methods and risk factors for breast cancer in a province of Western Turkey: A descriptive study

Nedime Kosgeroglu¹, Unal Ayranci², Nebahat Ozerdogan³,
Nilufer Serhan⁴, Alaettin Unsal⁵, Fatma Deniz Sayiner⁶

ABSTRACT

Objective: To determine the knowledge of women on early diagnosis methods and risk factors for breast cancer (BC).

Methodology: This descriptive study was conducted on all the women attending to the Eskisehir Municipality Women's Counseling and Solidarity Center in a province of western Turkey for any reasons between April 1, 2008 and April 1, 2010. The evaluation of knowledge was scored by a questionnaire formed using literature. The statistical analysis was carried out using Chi-square (χ^2), and student t test. A value of $p < 0.05$ was considered statistically significant.

Results: The average age of the participants was 47.21 ± 10.46 years. The proportion of those with enough knowledge about BC was 48.7%. In younger ages, in those with higher education levels, in those living in nuclear family type, in those with higher family income level, in those smoking cigarette, in those receiving knowledge previously about BC, in those having positive family history and in those with a benign or malignant breast disease diagnosed previously, the knowledge about BC were higher ($p < 0.001$, per one).

Conclusion: According to the results of this study, breast self-examination, a simple and economical diagnostic tool which protects women's privacy, should be performed regularly and properly by women themselves.

KEY WORDS: Breast cancer, Breast self-examination, Women, Risk factors, Turkey.

Pak J Med Sci April - June 2011 (Part-II) Vol. 27 No. 3 646-650

How to cite this article:

Kosgeroglu N, Ayranci U, Ozerdogan N, Serhan N, Unsal A, Sayiner FD. Knowledge of women on early diagnosis methods and risk factors for breast cancer in a province of Western Turkey: A descriptive study. Pak J Med Sci 2011;27(3):646-650

1. Nedime Kosgeroglu,
Health College,
 2. Unal Ayranci,
Medicosocial Centre,
 3. Nebahat Ozerdogan,
Assistant Professor, Health High School,
 4. Nilufer Serhan,
Selcuk University, Health Education Faculty Konya, Turkey.
 5. Alaettin Unsal,
Medical Faculty, Department of Public Health,
 6. Fatma Deniz Sayiner,
Health College,
- 1-3,5,6: Eskisehir Osmangazi University, Meselik Eskisehir, Turkey.

Correspondence:

Unal Ayranci,
Kurtulus Aile Sagligi Merkezi, Vatan Cd. 9/A Eskisehir, Turkey.
E-mail: ayranciunal@yahoo.com

- * Received For Publication: October 12, 2010
- * Revision Received: January 10, 2011
- * Revision Accepted: May 9, 2011

INTRODUCTION

Breast cancer (BC) refers to cancers originating from breast tissue, most commonly from the inner lining of milk ducts or the lobules that supply the ducts with milk.¹ Worldwide, BC is the most common cancer in women, after skin cancer, representing 16% - 23% of all female cancers.^{2,3} The rate is more than twice that of colorectal cancer and cervical cancer and about three times that of lung cancer. Mortality is 25% greater than that of lung cancer in women.⁴ The number of cases has significantly increased since the 1970s, a phenomenon partly attributed to the modern lifestyles.⁵

BC is strongly related to age with only 5% of all BCs occur in women under 40 years old, showing

increase after age 40.⁴ The available data in Turkey indicate that BC is in the first line with a rate of 24.1% within all cancer cases seen in women.⁶

Thirty two percent of cancers occurring in Turkish women and 18% of deaths as a result of cancer are due to BC.^{7,8} The lifetime risk of BC in Turkish women is 12.3%.⁸ Similar to other countries, the risk of BC increases with age also in Turkey. One in every 66 women between 40-49 years, and one of every 40 women between 50-59 years is at the risk of BC. The BC risk continues to increase until 75 to 79 years.⁶ Due to high incidence of morbidity and mortality, protection from cancer is a major public health problem. In times in which development of BC can not be prevented, decrease in proportions of mortality and morbidity and treatment cost can be achieved.

In studies for early diagnosis of cancer, it has been determined that women recognize by themselves the changes in their breasts through breast self-examination.⁹ Even though the efficiency of breast self-examination in early diagnosis of BC is discussed, some researchers, in the study where the relationship between the efficiency of breast self-examination and the death risk from BC was studied, reported that the risk of death from BC through breast self-examination has decreased.¹⁰

In this study, the objective was to determine the knowledge of women on early diagnosis methods and risk factors for BC in women aged 20 years and over in a province of western Turkey, Eskisehir.

METHODOLOGY

This descriptive study was conducted on all the women attending for any reasons such as spiritual, social and legal aims at the Eskisehir Municipality Women's Counseling and Solidarity Center in a province of western Turkey, Eskisehir.

All women attending the centre were asked that they should participate in the BC research which was very important for women's health. All subjects who agreed to participate in face to face interviews were contacted during their visit. A total of 116 subjects were unable to participate in the study for being in a hurry at that particular time ($n=49$), not agreeing to participate in the study ($n=61$) and those who were unable to cooperate in terms of mental status ($n=6$). The first part of questionnaire included information about the participants' sociodemographic characteristics and some properties related to pregnancy, birth and BC. The other one including 24 knowledge questions consisted of some known risk factors for BC, questions measuring the women's knowledge level

and BC-related symptoms. In the evaluation process of the questions, 1 point was given for each correct answer. The scores that women obtained ranged from 0-24 points. Women who received 13.5 and over score were accepted as those with enough knowledge about BC. In addition, those smoking at least one cigarette in a day were evaluated as smokers.¹¹ Those unemployed, housewife and retired were considered to be not working. Family income levels were grouped as enough, medium or insufficient in women's own statements.

The statistical analysis was carried out using Chi-square (χ^2), and student t test. A value of $p<0.05$ was considered statistically significant. The permission for the study was achieved by contacting and receiving approval from the Director of the Institution of Eskisehir Municipality. Participants completed an informed consent form in which they were assured of the confidentiality of their responses.

RESULTS

The average age of the participants was 47.21 ± 10.46 years (range=20-98 years). In this study, the proportion of those with enough knowledge about BC was 48.7%. When evaluated the level of knowledge according to age groups, it showed decrease with advancing age. This proportion at the age group of 20-29 was 84.1%; whereas this proportion was 40.4% at the age of 60 and over ($p<0.001$). As the education levels of women increased, the level of knowledge about BC showed increase. This proportion for illiterate women was only 38.7%, but 75.2% for those with an education level of high school and over ($p<0.001$). There was no difference between marital status and levels of knowledge about BC ($p>0.05$). In women living within a nuclear family type, the proportion of those with sufficient knowledge was 49.5%; while this proportion was 64.5% in patriarchal family type ($p<0.001$). In those with inadequate family income level, the knowledge about BC was lower than those with reasonable family income level (49.3% and 63.8%, respectively), ($p<0.001$). In those smoking cigarette, the level of knowledge about BC was higher when compared to those not smoking cigarette (53.1% and 44.8%, respectively) ($p<0.001$). More detailed data is presented in Table-I.

Table-II indicates the comparison of some characteristics of women by knowledge level about BC. Less than 50% of women (41.6%) reported they had received knowledge previously about BC. The proportion of those having knowledge about BC was higher in those receiving knowledge previously about BC when compared to those who did not had

knowledge previously about BC (67.0% and 35.7%, respectively) ($p<0.001$).

Sixteen point one percent of women had a positive family history of BC. According to negative family history, positive family history was an indicator for having sufficient knowledge about BC (44.5% and 70.9%, respectively) ($p<0.001$). It was determined that those with a benign or malignant breast disease diagnosed previously had a higher knowledge about BC than those who did not have ($p<0.001$).

DISCUSSION

The present study found that the proportion of those with satisfactory level of knowledge about BC was about fifty percent (48.7%). This figure may be consistent with the Turkish and another study showing that the proportion was about 28%-66%.^{6,12}

In the current study, the level of sufficient knowledge about BC showed decrease as age increased, in line with other studies indicating that as age increased the level of knowledge about BC decreased.¹³ On the other hand, many studies in Turkey reported

contradictory results.¹⁴ In general, as age increases, the frequency of cancer shows increase, and the concern that this situation creates increases the need to obtain relevant information in women.^{7,15}

The relationship between education levels of women and the level of knowledge about BC showed parallelism, with increase of both two variables, consistent with both national and international studies.^{8,16} As an explanation for this, education level plays an important role in the process of integration in prevention, diagnosis and treatment of BC, and also education creates awareness of consciousness.

Before the study, it had been thought that with the increase of social interaction, women's sensitivity to health issues would have increased. However, there was no relationship between the women's employment status and their levels of education ($p>0.05$), which was not compatible with the studies indicating that level of knowledge about BC in those working were higher.⁷ A reason for this could be that majority of the study group were housewives.

Table-I: The sociodemographic characteristics of women by status of knowledge level about breast cancer.

Sociodemographics	Level of knowledge about breast cancer			Statistical analysis χ^2 ; p value
	Sufficient n (%) [*]	Insufficient n (%) [*]	Total n (%) ^{**}	
Age group (years)				
20-29	143 (84.1)	27 (15.9)	170 (4.6)	296.563; 0.000
30-39	453 (77.6)	131 (22.4)	584 (15.6)	
40-49	675 (45.6)	804 (54.4)	1479 (39.6)	
50-59	643 (42.8)	858 (57.2)	1501 (40.2)	
≥60	40.4		490 (13.1)	
Education level				
Illiterate	261 (38.7)	414 (61.3)	675 (18.1)	134.450; 0.000
Primary and secondary school	1353 (50.9)	1307 (49.1)	2660 (71.2)	
High school and over	300 (75.2)	99 (24.8)	399 (10.7)	
Marital status				
Married	1666 (51.8)	1548 (48.2)	3214 (86.1)	5.545; 0.063
Unmarried	16 (36.4)	28 (63.6)	44 (1.2)	
Widowed	232 (48.7)	244 (51.3)	476 (12.7)	
Employment status				
Employed	156 (52.0)	144 (48.0)	300 (8.0)	0.072; 0.789
Unemployed	1758 (51.2)	1676 (48.8)	3434 (92.0)	
Family type				
Nuclear	1585 (49.4)	1622 (50.6)	3207 (85.9)	34.102; 0.000
Patriarchal	269 (64.5)	148 (35.5)	417 (11.2)	
Divorced	60 (54.5)	50 (45.5)	110 (2.9)	
Family income status				
Bad	169 (49.3)	174 (50.7)	343 (9.2)	21.379; 0.000
Middle	1520 (50.1)	1513 (49.9)	3033 (81.2)	
Good	225 (62.8)	133 (37.2)	358 (9.6)	
Smoking				
Yes	1550 (53.1)	1371 (46.9)	2921 (78.2)	17.501; 0.000
No	364 (44.8)	449 (55.2)	813 (21.8)	
Total	1914 (51.3)	1820 (48.7)	3734 (100.0)	

Table-II: The some characteristics of women by status of knowledge level about breast cancer.

Some characteristics	Level of knowledge about breast cancer			Statistical analysis <i>X²; p value</i>
	Sufficient n (%)*	Insufficient n (%)*	Totaln (%)**	
Status of receiving knowledge previously about breast cancer				
Yes	1041 (67.0)	513 (33.0)	1554 (41.6)	354.726; 0.000
No	779 (35.7)	1401 (64.3)	2180 (58.4)	
Family history				
Yes	427 (70.9)	175 (29.1)	602 (16.1)	141.435; 0.000
No	1393 (44.5)	1739 (55.5)	3132 (83.9)	
Presence of a benign or malign breast disease diagnosed previously				
Yes	86 (69.4)	38 (30.6)	124 (3.3)	21.814; 0.000
No	1734 (48.0)	1876 (52.0)	3610 (96.7)	
Total	1820 (48.7)	1914 (51.3)	3734 (100.0)	

In women living within a nuclear family type, the proportion of those with sufficient knowledge was 49.5%; while this proportion was 64.5% in patriarchal family type. This may be a result of interaction between family members because of living in a crowded family in line with the study by Urkmez¹⁷ in our country. In contrast, this finding is not compatible with another Turkish study reporting that the proportion of having insufficient knowledge about BC was 2.2 times higher in women living in patriarchal families rather than in nuclear families. This difference could be explained with the fact that a majority of the women who live in patriarchal families are more likely to be illiterate and to have a more traditional lifestyle in our country.¹⁸

In the current study, in those with inadequate family income level, the level of knowledge about BC was lower than those with sufficient family income level (49.3% and 63.8%, respectively). These results are supported by the studies by Urkmez¹⁷ and Kum et al¹⁹ from our country indicating that as income level increased mean knowledge level about BC showed increase. These results emphasize the importance of income level about BC and breast self-examination.

In those smoking cigarette, the level of knowledge about BC was higher when compared to those not smoking cigarette (44.8% and 53.1%, respectively), in line with some researches.⁶ A reason for this may be that due to the carcinogenic effects of smoking, women are constantly sensitive against cancers. In the current study, less than 50% of women (41.6%) reported they had received knowledge previously about BC. This is rather low proportion. This emphasizes that women are at risk in terms of BC and that they have no more information about BC. On the other hand, in those receiving knowledge

previously about BC when compared to those not receiving, the level of knowledge about BC was higher (67.0% and 35.7%, respectively). This finding is compatible with many studies from both Turkey and various countries.²⁰ In the light of these results, we can say that women's level of knowledge about BC and breast self-examination is insufficient.

It was determined that those with a benign or malignant breast disease diagnosed previously had a higher level of knowledge about BC than those who did not have (69.4% and 48.0%, respectively); furthermore, women with a positive family history had a higher level of knowledge about BC than those having a negative family history (70.9% and 44.5%, respectively), consistent with many studies indicating that women with history of BC in first-degree relatives had higher perception of sensitivity.^{18,21} These results show that a history of BC in women's family or themselves increased their need of knowledge about BC.

In conclusion, the results of this study show that having knowledge and breast self-examination is effective for early diagnosis and treatment. BC is an important problem in a woman's life, causing many social, psychological and economic losses. Thus, breast self-examination, a simple and economical diagnostic tool which protects women's privacy, should be performed regularly and properly by women themselves and should be advised continuously by their physicians.

ACKNOWLEDGEMENTS

The author wishes to thank the study participants for their valuable efforts and time, and also Kerin Louise Martin for assistance with the language of this manuscript.

REFERENCES

1. Muss HB, Berry DA, Cirincione CT, Theodoulou M, Mauer AM, Kornblith AB, et al. Adjuvant chemotherapy in older women with early-stage breast cancer. *N Engl J Med* 2009;360:2055-2065.
2. Shapiro S, Coleman EA, Broeders M, Codd M, de Konging H, Fracheboud J, et al. Breast Cancer Screening Programmes in 22 countries: current policies administration and guidelines *Int J Epidemiol* 1998;27:735-742.
3. Schnitt SJ. Benign breast disease and breast cancer risk: potential role for antiestrogens. *Clin Cancer Res* 2001;7:12(Suppl):4419-4422.
4. WCR. World Cancer Report. International Agency for Research on Cancer. June 2003. Available at: <http://www.iarc.fr/en/Publications/PDFs-online/World-Cancer-Report/World-Cancer-Report>. Retrieved March 26, 2009.
5. Tammemagi CM. Racial/ethnic disparities in breast and gynecologic cancer treatment and outcomes. *Curr Opin Obstet Gynecol* 2007;19:31-36.
6. Avci A. Factors associated with breast self-examination practices and beliefs in female workers at a Muslim community. *Eur J Oncol Nurs* 2008;12:127-133.
7. Golbasi Z, Kutlar Z, Akdeniz H. The effect of education given by nursing students on womens' knowledge and practice of breast cancer / breast self examination in a public training center. *The J Breast Health* 2007;3:53-57.
8. Altunkan H, Akin B, Ege E. Awareness and practice of breast self examination among 20-60 years women. *The J Breast Health* 2008;4:84-91.
9. Thomas DB, Gao DL, Ray RM, Wang WW, Allison CJ, Chen FL, et al. Randomized trial of breast self-examination in shanghai: Final results. *J Natl Cancer Inst* 2002;94:1445-1457.
10. Harvey BJ, Miller AB, Baines CJ, Corey PN. Effect of breast self-examination techniques on the risk of death from breast cancer. *CMAJ* 1997;157:1205-1212.
11. WHO guidelines for controlling and monitoring the tobacco epidemic. Geneva, Switzerland: World Health Organization, 1998: 77.
12. Gilani SI, Khurram M, Mazhar T, Mir ST, Ali S, Tariq S, et al. Knowledge, attitude and practice of a Pakistani female cohort towards breast cancer. *J Pak Med Assoc* 2010;60:205-208.
13. Mandelblatt J, Kaufman E, Sheppard VB, Pomeroy J, Kavanaugh J, Canar J, et al. Breast cancer prevention in community clinics: will low-income Latina patients participate in clinical trials? *Am J Prev Med* 2005;40:611-618.
14. Sen S, Ozturk M, Kisioglu AN. Knowledge of women aged 25-65 years on risk factors and symptoms of breast cancer in Turkey. 8th National Public Health Congress Book, 23-28 Sep, Diyarbakir, 2002: 651-653.
15. Dolgun E, Solak M, Kabatas, Ertem G. The feasibility of education on knowledge of breast examination among women equal to/or older than 20. *The J Breast Health* 2009;5:141-147.
16. Nekhlyudov L, Fletcher SW. Is it time to stop teaching breast self-examination? *CMAJ* 2001;164:1837-1846.
17. Urkmez E. Risk scanning for breast cancer among women aged 40-69 years in Eskisehir by Gail Model. Eskisehir Osmangazi University, Institute of Health Sciences. Expertise Thesis, 2009.
18. Dundar PE, Ozmen D, Ozturk B, Haspolat G, Akyildiz F, Coban S, et al. The knowledge and attitudes of breast self examination and mammography in a group of women in a rural area in western Turkey. *BMC Cancer* 2006;43:1-9.
19. Kum S, Goksu UA, Kelkitli E, Yucel I. Frequency of breast self-examination and related factors in Central Black Sea Region. *Turkish J Oncology* 2004;19:24-27.
20. Lee K, Lim HT, Park SM. Factors associated with use of breast cancer screening services by women aged ≥ 40 years in Korea: The third Korea national health and nutrition examination survey 2005 (KNHANES III). *BMC Cancer* 2010;16:144.
21. Lipkus I, Biradavolu M, Fenn K, Keller P, Rimer B. Informing women about their breast cancer risks: Truth and consequences. *Health Common* 2001;13:205-226.