

## Original Article

# Health Responsibility Levels and Knowledge and Practices Related to Early Detection of Women' Breast Cancer

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## Abstract

**Background:** It is critically essential to perform scanning programs and health responsibility for an early diagnosis of cancer in order to get a better prognosis and long survival.

**Objective:** This study was descriptively conducted in order to evaluate the relationship between women's health responsibility level and their knowledge and practices related to mammography, clinical breast examination (CBE) and breast self-examination (BSE).

**Methodology:** The population of the study was consisted of people who lived in neighborhoods to which a Family Health Center in Erzincan Province served. 379 people were selected as a sample using random sampling method. The data were gathered using a questionnaire form designed by the researcher and Health Responsibility Subscale of Healthy Lifestyle Behaviors Scale and were analyzed with SPSS 20.0 software using chi-square and percentages.

**Results:** When mean scores of women's health responsibility and their knowing and having CBE, BSE and mammography were compared; it was found out that women who knew (47.5%) (22.5±4.9 score), and had (%22.4) (23.1±4.6 score) CBE, women who knew (64.9%) (21.8±4.7 score) and had (56.5%) (22.3±4.7 score) BSE and women who knew (73.4%) (21.6±4.8 score) and had (523) (22.5±4.8 score) mammography had significantly higher health responsibility ( $p < 0.05$ ).

**Conclusions:** It was explored that the participant women knew CBE, BSE and mammography but health responsibility was effective upon turning this knowledge into behavior.

**Key Words:** Clinical Breast Examination, Breast Self-Examination, Mammography, Health Responsibility, Nursing.

## Introduction

When examined in terms of cancer types, breast cancer is an important cancer type that affects health of women in many countries (Somunoglu,2009; Koc and Saglam, 2009). Besides, it is reported that one woman is diagnosed with breast cancer every three minutes worldwide (Somunoglu, 2009). As for our country, incidence of breast cancer is 24.96% and

breast cancer is the most commonly seen cancer type seen among women. Nearly one fourth of the cancer types seen among the women are breast cancer. Breast cancer is in the second place after lung cancer in terms of mortality among women caused by cancer both in Turkey and world (Koc and Saglam, 2009; Hamzaoglu and Ozcan, 2006; Beydag and Karaoglan,2007;Aslan et al.,2007;Turkish Health Ministry,2012).

Although it is widespread, breast cancer show a slow growth and the treatment results of breast cancer can be very successful when it is early diagnosed and the mortality rate can be decreased (Koc and Saglam, 2009; Baltzell and Wrensch, 2005; . Veronesi et al., 2005; Wei and Borum,2000). It is critically essential to perform screening programs for an early diagnosis of cancer in order to get a better prognosis and long survival (Smith, Cokkinides, Eyre,2003; Ersin and Bahar, 2017).

When the significance of the breast cancer is considered in relation with human life, Breast Self-Examination (BSE), Clinical Breast Examination (CBE) and having mammography become very important in order to get an early diagnosis (American Cancer Society,2003;İsaacs,2002;Ozdemir and Caliskan,2002; Rutledge et al.,2001; Siahpush and Singh,2002;Tang, Solomon, Mccracken,2000; Ersin and Bahar, 2017).

Therefore; increasing cost of health sources has put an emphasis upon preventive and early-diagnostic efforts of breast cancer (Somunoglu, 2009; Ersin and Bahar, 2017; Ozdemir et al.,2014).

It is recommended that every woman aged  $\geq 40$  should have mammography every year, every woman aged 20-39 should have CBE once in three years by an expert health personnel, every woman aged  $\geq 40$  should have CBE once a year by an expert health personnel and from the age of 20 every women should perform BSE on condition that benefits and limitations of BSE are explained by health personnel (Smith, Cokkinides, Eyre,2003;American Cancer Society,2001;Simon,2006; Kerner et al.,2000;Haji-Mahmoodi et al., 2002; Ozdemir et al.,2014).

It is fundamental to benefit from health promoting behaviors in order to get a protection against diseases and an early diagnosis and to continue wellness. Health responsibility means the active internal obligation felt by one for his/her own wellness. It comprises activities to care his/her health, to get information about health and to seek for a professional help when necessary. It also affects one's quality of health care and determines to what degree one participates in his/her own health (Baharet al., 2008; Owens,2006;Gungormus and Sayan;2011; Ozdemir et al.,2014).

This study is a descriptive study that aims at the relationship between women's health responsibility level and their knowledge and practices about breast cancer, mammography, CBE and BSE.

## Methods

This study was descriptively conducted to assess the relationship between women's health responsibility level and their knowledge and practices about breast cancer, mammography, CBE and BSE. The population of the study was consisted of the residents who lived in a neighborhood to which a Family Health Center in Erzincan Province served. 379 people who were selected using random sampling method were included in sample. The data were gathered using a questionnaire form developed by the researchers and Health Responsibility Subscale of Healthy Life Style Behavior Scale. Healthy Life Style Behavior Scale was developed by Walker, Sechrist and Pender in 1987(Walker, Sechrist, Pender,1987). The Turkish validity and reliability tests of the scale were performed by Esin in 1997. The questions of the scale measure health improving behaviors of the individuals in relation with healthy life style. The scale has a total of 48 items and is clustered into 6 subscales. These subscales are self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. Each subscale can be separately used. All of the items of the scale are positive. There is no reverse item. Marking is done with four point Likert scale: "never" (1), "sometimes" (2), "often" (3) and "regularly" (4). Total lowest score of the scale is 10 while total highest score is 40. Higher total scores indicate higher level of health responsibility of the individual (Esin,1997).

Necessary ethical official and written permissions were acquired and oral informed consents of the participants were obtained. The data obtained from the study were analyzed using chi-square and percentages with SPSS 20.0 statistical software.

## Results

It was found out that 65.2% of the participant women were aged between 20 and 39, 70.7% were housewives, 77.6% were married, 48.8% had primary school degree, 58.8% had children, 50.1% had an income equal to expenses and 92.9% did not have breast cancer history in the

first-degree family members (Table 1). When women's knowledge and practices of CBE were examined, it was seen that 52.5% did not know what CBE was and 77.6% did not have CBE. Most of the women (45.9%) had CBE because of pain/discharge/lump in the breast and they were of the opinion that each woman should have CBE once a year (38%) after the age of 40 (33.5%) (Table 2).

When women's knowledge and practices of BSE were examined, it was discovered that most of them (64.9%) knew about BSE but did not perform BSE (56.5%). When women's training status was examined in relation with BSE, it was explored that 86.8% did not get any training about BSE and 70.7% wanted to have training about BSE. It was noted that according to women, BSE should be performed when it came to mind (40.4%) and when it was necessary to realize early diagnosis of a tumor that was likely to develop in the breast (53.8%). Information sources were generally "TV, radio, books, brochures, newspapers and magazines" (33.8%). When it was asked who should perform BSE, the

most frequently replied answer was "All of the women aged  $\geq 20$ " (41.7%). When it was asked how BSE should be performed, the most frequently replied answer was "Both breast and armpits are checked for lump and hardness using fingertips and pressing gently around breasts in a small circular motion" (48%) (Table 3).

When women's knowledge and practices of mammography and the reasons why the women had BSE, CBE, mammography or why they did not have BSE, CBE, mammography were examined; it was seen that most of them did not know mammography (73.4%) and did not have mammography (77%).

Those who had mammography were generally encouraged by health care personnel (14%). When it was asked when mammography should be done, the most frequently replied answer was "once a year for those aged  $\geq 40$  (33.8%)".

When it was asked about the reasons why the women did not have BSE, CBE, mammography; the answer was "I think it is unnecessary because I do not have any problem" (39.7%)(Table 4).

**Table 1.Descriptive Characteristics of Women**

Descriptive Characteristics		n	%
Age	20-39 years	247	65.2
	40-59 years	126	33.2
	60-80 years	6	1.6
Profession	State officer	82	21.6
	Housewife	268	70.7
	Self-employed	29	7.7
Marital status	Married	294	77.6
	Single	85	22.4
Educational status	Primary school	185	48.8
	High school	113	29.8
	University	81	21.4
Children	Yes	223	58.8
	No	156	41.2
Income status	Lower income than expenses	128	33.8
	Higher income than expenses	61	16.1
	Income equal to expenses	190	50.1
Cancer history in the first-degree family members	Yes	27	7.1
	No	352	92.9

**Table 2. Women's Knowledge and Practices about CBE**

Knowledge And Practices About Clinical Breast Examination		Yes		No	
		n	%	n	%
Do you know Clinical Breast Examination?		180	47.5	199	52.5
Do you have Clinical Breast Examination?		85	22.4	294	77.6
What is your reason to have Clinical Breast Examination?	Pain/discharge/lump in the breast	39	45.9	46	54.1
	Advice of health care personnel	14	16.5	71	83.5
	Advice of the friends	7	8.2	78	91.8
	TV, radio, book, brochure, newspaper and magazine	4	4.7	81	95.3
Who should have Clinical Breast Examination?	My idea	18	21.2	67	78.8
	Each woman after the age of 20	54	14.2	325	85.8
	Each woman aged 30-40	56	14.8	323	85.2
	Each woman after the age of 40	127	33.5	252	66.5
	Those who have had family members with breast cancer	72	19	307	81
How often should one have Clinical Breast Examination? ( <i>More than one item was marked</i> )	Those with complaints about breast	56	14.8	323	85.2
	I do not know	85	22.4	294	77.6
	Once in three years between the age of 20 and 40	74	19.5	305	80.5
How often should one have Clinical Breast Examination? ( <i>More than one item was marked</i> )	Twice in two years at the age of 35	41	10.8	338	89.2
	Once a year after the age of 40	144	38	235	62
	Whenever there is a problem	62	16.4	317	83.6
	Only those who have had breast cancer or have had family members with breast cancer	22	5.8	357	94.2
I do not know		97	25.6	282	74.4

**Table 3. Women's Knowledge and Practices about BSE**

Knowledge and Practices about Breast-Self Examination		Yes		No	
		n	%	n	%
Do you know how to do Breast-Self Examination?		246	64.9	133	35.1
Do you do Breast-Self Examination?		214	56.5	165	43.5
Have you ever participated in training program about Breast-Self Examination?		50	13.2	329	86.8
Would you like to participate in training program about Breast-Self Examination?		268	70.7	111	29.3
How often should BSE be performed?	Before menstruation	28	7.4	351	92.6
	During menstruation	10	2.6	369	97.4
	Once in two months at the end of menstruation	9	2.4	370	97.6
	Once a month at the end of each menstruation	40	10.6	339	89.4
	After each bathing	88	23.2	291	76.8
	Whenever it comes to mind	153	40.4	226	59.6
How did you learn to do BSE?	Ido not know	51	13.5	328	86.5
	Health care personnel	92	24.3	154	75.7
	TV, radio, book, brochure, newspaper and magazine	128	33.8	118	66.2
	Friends	26	6.9	220	93.1
Why should BSE be performed?	To detect tumor that is likely to develop in the breast at an early period	204	53.8	175	46.2
	To detect abnormalities –such as pectus excavatum,	40	10.6	339	89.4

	change in breast aspect, discharge- in the breast at an early period				
	All	79	20.8	300	79.2
	I do not know	56	14.8	323	85.2
Who do you think should have BSE?	Each woman aged $\geq 20$	158	41.7	221	58.3
	Each woman after the age of 40	100	26.4	279	73.6
	Those who have had family members with breast cancer	47	12.4	332	87.6
	Those with complaints about breast	51	13.5	328	86.5
	I do not know	75	19.8	304	80.2
How should BSE be performed? ( <i>More than one item was marked</i> )	Stand up with two hands on waist in mirror and both breasts are checked in terms of shape and size.	59	15.6	320	84.4
	Orange peel appearance on breast and nipples and pectus excavatum is checked.	37	9.8	342	90.2
	Discharge from nipples is checked.	47	12.4	332	87.6
	Both breast and armpits are checked for lump and hardness using fingertips and pressing gently around breasts in a small circular motion.	182	48	197	52
	All	90	23.7	289	76.3
	I do not know	76	20.1	303	79.9

**Table 4. Women's Knowledge and Practices about Mammography and the Reasons Why They Had BSE, CBE and Mammography or Why They Did Not Have BSE, CBE and Mammography**

Knowledge and Practices about Mammography		Yes		No	
		n	%	n	%
Do you know what mammography is?		278	73.4	101	26.6
Have you ever had mammography?		87	23	292	77
Who told you to have mammography?	Health personnel	53	14	34	86
	Printed and visual media	15	4	72	96
	Friends	2	0.5	85	99.5
	My idea	17	4.5	70	95.5
When to have mammography? ( <i>More than one item was marked</i> )	Once a year between the age of 20 and 30	24	6.3	254	93.7
	Once a year at the age of 40 and over	128	33.8	150	66.2
	When suspected about lump in the breast	53	14	225	86
	Once in five years	11	2.9	267	97.1
	Once a year	52	13.7	226	86.3
	I do not know	110	29.3	168	70.7
The reasons why the women did not have BSE, CBE, mammography ( <i>More than one item was marked</i> )	Shame	34	9.7	316	90.3
	Fear of pain	16	4.6	334	95.4
	Cost	8	2.3	342	97.7
	No time	38	10.9	312	89.1
	Fear to get a negative result	54	15.4	296	84.6
	Fear to get radiation	33	9.4	317	90.6
	I do not know how to do	34	9.7	316	90.3
	I find it unnecessary because none of my first-degree relatives has breast cancer	25	7.1	325	92.9
Lack of knowledge		139	39.7	211	60.3

**Table 5. Comparison of Women's Health Responsibility and CBE, BSE and Willingness to Participate in the Training Program, Knowing and Having Mammography**

Women's health responsibility and their willingness to participate in training programs about CBE, BSE and knowing and having mammography	Health Responsibility				
		n	X± SD	t	p
Do you know what CBE is?	Yes	180	22.5±4.9	4.550	0.000
	No	199	20.1±5.2		
Have you ever had CBE?	Yes	85	23.1±4.6	3.876	0.000
	No	294	20.7±5.2		
Do you know what BSE is?	Yes	246	21.8±4.7	2.983	0.003
	No	133	20.1±5.9		
Do you do BSE?	Yes	214	22.3±4.7	4.535	0.000
	No	292	19.9±5.4		
Have you ever participated in a training program about BSE?	Yes	50	23.2±5.1	2.909	0.004
	No	329	20.9±5.1		
Would you like to participate in a training program about BSE?	Yes	268	21.7±5.0	2.708	0.007
	No	111	20.1±5.4		
Do you know what mammography is?	Yes	278	21.6±4.8	2589	0.010
	No	101	20.1±5.9		
Have you ever had mammography?	Yes	87	22.5±4.8	2.687	0.008
	No	292	20.8±5.2		
Mean General Health Responsibility		379	21.3±0.2		

When women's mean scores of health responsibility and their willingness to participate in training programs about CBE, BSE and knowing and having mammography were compared; health responsibility scores were considerably high among those who knew CBE (22.5±4.9), those who had CBE (23.1±4.6), those who knew BSE (21.8±4.7), those who did BSE (22.3±4.7), those who participated in training programs about BSE (23.2±5.1), those who wanted to participate in training programs about BSE (21.7±5.0), those who knew mammography (21.6±4.8) and those who had mammography (22.5±4.8) ( $p < 0.05$ ) (Table 5).

Besides; general health responsibility score of the all of the participant women was found to be 21.3±0.2 (Table 5).

### Discussion

Today; clinical breast examination (CBE), breast self-examination (BSE) and mammography constitute the early diagnostic approaches in the breast cancer screenings.

In the present study, when women's knowledge and practices of CBE were examined, it was found out that 52.5% did not know what CBE was and 77.6% did not have CBE. Women (45.9%) had CBE mainly because they felt pain/discharge/lump in the breast and they

thought that each woman should have CBE once a year (38%) after the age of 40 (33.5%). It was noted that 33% of the participant women in the study of Yavan and Akyuz (2010) and 23.4% of the participant women in the study of Findik and Turan (2004) did not have CBE. Similarly; the study of Koc and Saglam (2009) in which knowledge and practices of early diagnosis of breast cancer were examined reported that 89% of the women did not know CBE, 76% did not have CBE and it was learnt that 50.2% of those (24.0%) who had CBE had CBE because they themselves decided to, which proved that women abstain from having CBE as long as there is no disease symptom and that they do not take their own health responsibility. Yet, American Cancer Society recommends that every women aged 20-39 should have CBE once in three years and women of other age groups should have CBE once a year by an expert health personnel who is trained about CBE (American Cancer Society,2001).

When women's knowledge and practices of BSE were examined, it was discovered that most of them (64.9%) knew about BSE but did not perform BSE (56.5%). They were of the opinion that BSE should be performed in order to diagnose a tumor in the breast at an early period (53.8%). When it was asked about who should

perform BSE, the most frequently replied answer was “All of the women aged  $\geq 20$ ” (41.7%). When it was asked how BSE should be performed, the most frequently replied answer was “Both breast and armpits are checked for lump and hardness using fingertips and pressing gently around breasts in a small circular motion” (48%) (Table 3). Similarly, the study of Yavan and Akyuz (2010) revealed that 72.3% of the women knew BSE but 67% of them performed BSE irregularly and the reasons why they did not perform BSE were lack of knowledge (50.8%); and that they either did not know at all or knew wrongly how often (68.1%), when (74.5%) and how (71.3%) to do BSE. In the study of Kum et al. (2004), it was explored that the rate of BSE of women who lived in Middle Black Sea Region was 63.8% (Kum et al., 2004). In the study of Koc and Saglam (2009), it was seen that 65% of women did not know BSE and 65% did not perform BSE and 51.5% of those who performed BSE (35%) did BSE as a result of their own decisions (Koc and Saglam, 2009). Although there is a limited number of the studies which investigated factors that affected the practices of women to prevent breast cancer in Turkey; it was explored that most of the women did not perform BSE (Gozum, Karayurt, Aydin, 2004). Although the study of Leight et al. in the USA (2000) recommended BSE in conjunction with breast examination done by health care professionals and mammography –which is in agreement with our study-; they concluded that BSE was monthly done by only a small group of women and the number of the women who performed BSE correctly, regularly and skillfully was very small (Leight et al., 2000).

In the current study, 86.8% of the women received information previously and their information sources were generally “tv, radio, books, brochures, newspapers and magazines” (33.8%) in the first place whereas health care personnel came in the second place as an information source. Different studies in Turkey indicate that media is a major information source of BSE (Koc and Saglam, 2009; Yavan and Akyuz, 2010; Findik and Turan, 2004; Cevik, Akbulut and Erkal, 2005; Karaoglan and Tasci, 2006; Kilic et al., 2006). These results demonstrate that media and press and health care members at the hospitals, clinics and the trainings provided have a big effect upon BSE practices.

In the current study; it was noted that women performed BSE when it came to mind (40.4%) and the rate of those who did BSE regularly was 23.2%. Similar studies that examined the frequency of BSE pointed out that the rate of those who performed BSE regularly once a month ranged between 7.5% and 46.1% (Cevik, Akbulut and Erkal, 2005; Karaoglan and Tasci, 2006; Kilic et al., 2006; Aygin, Uludag and Sahin, 2004). Our findings supported the literature.

When women’s knowledge and practices of mammography were examined; it was seen that most of them did not know mammography (73.4%) and did not have mammography (77%). Those who had mammography were generally encouraged by health care personnel (14%). When it was asked when mammography should be done, the most frequently replied answer was “once a year for those aged  $\geq 40$  (33.8%)”. The study of Yavan and Akyuz (2010) established the rate of those who never had mammography as 78.7% and the study of Findik and Turan (2004) as 17.8%. Similarly; it was found out in the study of Koc and Saglam (2009) that 97% of the women did not know mammography, 86% did not have mammography and 78.6% of those who had mammography had mammography just because doctors recommended. Like our study, literature emphasizes that recommendations made by the health care personnel play an important role in the willingness to have mammography (Koc and Saglam, 2009; Katapodi and Aouizerat, 2005). When some studies conducted in our country on early diagnosis of breast cancer (Koc and Saglam, 2009; Yavan and Akyuz, 2010; Findik and Turan, 2004; Dunder et al., 2006) were compared to other studies abroad (Skinner, Arfken and Sykes, 1998; Tang, Solomon and McCracken, 2000); it was detected that Turkish women had mammography less.

In the current study; it was understood that the reason why women did not have CBE, BSE and mammography was mainly lack of knowledge (50.8%). Similar studies on the issue were in line with ours (Koc ve Saglam, 2009; Yavan and Akyuz, 2010; Findik and Turan, 2004; Karaoglan and Tasci, 2006; Dunder et al., 2006; Hansen et al., 2005; Seif and Aziz, 2000; Ozdemir et al., 2014; Sapountzi-Krepia et al., 2017). This finding points out the fact that women’s knowledge level about screening tests is lower and they need training and that trainings given by the health care personnel are insufficient because

they are not continued periodically. Literature reports that training programs are very important in detection of breast cancer as early as possible (Koc ve Saglam, 2009; Seif and Aziz, 2000). Therefore; it is very significant that nurses should inform women about breast cancer risks, breast cancer symptoms and early diagnosis practices and should periodically continue these training programs.

In the current study; mean health responsibility scores of the women who knew and had CBE, BSE and mammography were significantly higher. Similarly; the study of Tuna Oran et al. (2008) found health responsibility scores of the women who knew and had BSE and mammography higher. The study of Ersin and Bahar (2012) demonstrated that women in the experimental group to whom trainings were given by nursing interventions had higher mean scores in subscales of health responsibility compared to control group. It is an expected outcome that knowledge and practices of mammography, CBE and BSE are in line with health responsibility in terms of early diagnosis of breast cancer.

## CONCLUSIONS

As a result; it was noted that knowledge level of the women about mammography, CBE and BSE was at a moderate level but health responsibility played a key role in turning this knowledge into behavior. In this regard; it is advised that training programs to prevent breast cancer should be organized for women, these training programs should be periodically continued and nurses should actively take part in these training programs with the help of media.

## References

- American Cancer Society (2003.) Finding Breast Cancer Early From the American Cancer Society Breast Cancer Facts, Cancer Journal for Clinicians; 53: 170-171.
- American Cancer Society (2001).Guidelines for the Early Detection of Cancer. Cancer Journal for Clinicians, 51: 87-88.
- Aslan A, Temiz M, Yilmaz Y et al.(2007). Knowledge, attitudes and behaviors about Breast Cancer of the nursing school students, TAF Preventive Medicine Bulletin,6(3): 193-198.
- Aygin D, Uludag C, Sahin S (2004). Evaluation of Knowledge, Attitudes and Behaviors of Young people about Breast Cancer and BSE, Nursing Forum, 7(4), 1-6.
- Bahar Z, Beser A, Gordes N, Ersin F, Kissal A (2008). Validity and reliability tests of the Healthy Life Style Scale. C.U. Nursing School Journal, 12(1);1-13.
- Baltzell K, WrenschMr (2005). Strengths and Limitations Of Breast Cancer Risk Assessment. Oncology Nursing Forum,32(3):606-613.
- Beydag K, Karaoglan H (2007). The effect of BSE training upon knowledge and attitudes of the students, TAF Preventive Medicine Bulletin,6(2): 106-111.
- Cevik C, Akbulut G, Erkal S (2005). The effect of BSE Knowledge levels of women who came to hospital for breast lump upon the detection of lump. Nursing Forum, 6: 4-8.
- DundarPe, Ozmen D, Ozturk B, Haspolat G, Akyildiz F, Coban S, Cakiroglu G (2006). The Knowledge and Attitudes of Breast Self-Examination and Mammography in a group of Women in a Rural Area in Western Turkiye.BMC Cancer, 6:43.
- ErsinF, Bahar Z (2017).Effects of Nursing Interventions Planned with the Health Promotion Models on the Breast and Cervical Cancer Early Detection Behaviors of the Women. International Journal of Caring Sciences, 10(1): 421-432.
- Esin N (1997). Determination and Improvement of Health Behaviors of the workers who worked in industry sector.Doctorate Thesis, Istanbul, Istanbul University.
- Findik U, Turan N (2004). Determination of Women's Behaviors towards early diagnosis of breast cancer. Nursing Forum, 8: 54-59.
- Gozum S, Karayurt O, Aydin I (2004).Results about the Turkish version of Champion's Health Belief Model in Breast Cancer Screening. Nursing Research and Development Journal, 1(2):71-85.
- Gungormus Z. Sayan A (2011). Evaluation of the relation between nonprescription drug usage and Health Responsibility.Sendrom, 23(4-6):60-68.
- Haji-Mahmoodi M., Montazari A., Jarvandi S., Ebrahimi M., Haghghat S., Harirchi I (2002). Breast Self-Examination: Knowledge, Attitudes, And Practices Among Female Health Care Workers in Tehran, Iran, The Breast Journal, 8(4): 222-225.
- Hamzaoglu O, Ozcan U (2006). Turkish Health Statistics. Ankara: Turkish Medical Association Publications, 2006.
- Hansen, L. K., Feigl, P., Modiano, M. R., Lopez, J. A., Sluder, S. E., Moinpour, C. M., et al.(2005). An Educational Program to Increase Cervical and Breast Cancer Screening in Hispanic Women. Cancer Nursing, 28(1), 47-53.
- Isaacs C., Peshkin B.N., Schwartz M., Demarco T.A., Main D., Lerman C (2002). Breast and Ovarian Cancer Screening Practices in Healthy Women with A Strong Family History of Breast or Ovarian Cancer. Breast Cancer Research and Treatment, 71:103-112.

- Karaoglan H, Tasci, K. D (2006). Determination of BSE Knowledge levels of female university students who stayed at girl's dormitory, *Nursing Forum*, 1(1), 82–87.
- Katapodi Mc, Aouizerat Be (2005). Do Women in The Community Recognize Hereditary And Sporadic Breast Cancer Risk Factors? *Oncology Nursing Forum*, 32(3):617-622.
- Kerner J.F., Mandelblatt J.S., Silliman R.A., Lynch J.J., Senie, R., Cohen C., Hwang Y.T.(2001).The Options Research Team. Screening Mammography and Breast Cancer Treatment Patterns in Older Women. *Breast Cancer Research and Treatment*, 69:81-91.
- Kilic S, Ucar, M, Seymen E, Ince S, Erguvenli O, Yildirim A, et al (2006). Examination of BSE Knowledge and practices among Nurses, *Nursing students and Female patients of GATA, Gulhane Medical Journal*, 48(4), 200–204.
- Koc Z, Saglam Z (2009). Determination of women's knowledge and practices about breast cancer, preventive measures and BSE and the efficacy of training. *Breast Health Journal*, 5(1):25-33.
- Kum S, Goksu Alp U, Kelkitli E. Yucel I (2004).BSE Frequency in Middle Black Sea Region and the Affecting Factors. *Turkish Oncology Journal*, 19(1);24-27.
- Leight Sb, Deiriggi P, Hursh D, Douglas M, Leight V (2000). The Effect of Structured Training on Breast Self-Examination Search Behaviors as Measured Using Biomedical Instrumentation. *Nursing Research*, 49(5):283-289.
- Owens L (2006) The Relationship Of Health Locus Of Control, Self-Efficacy, Health Literacy And Health Promoting Behaviors in Older Adults. A Dissertation Presented For the Doctor Of Philosophy Degree The University Of Memphis.
- Ozdemir A, Akansel N, Citak Tunc G, Aydin N, Erdem S(2014). Determination of Breast Self-Examination Knowledge and Breast Self-Examination Practices among Women and Effects of Education on their Knowledge. *International Journal of Caring Sciences*. 7(3):792-798.
- Ozdemir O. and Caliskan D (2002). Methods used for early diagnosis of breast cancer. *Health and Society*, 12(4): 10-14.
- Rutledge D.N.,Barsevick A., Knobf M.T., Bookbinder M (2001). Breast Cancer Detection: Knowledge, Attitudes, and Behaviors of Women from Pennsylvania. *Oncology Nursing Forum* July, 28(6): 1032-1040.
- Sapountzi-Krepia D, Rekleiti M, Lavdaniti M, Psychogiou M, Chaliou M, Xenofontos M, Savva M (2017). Evaluating female nursing students' knowledge and attitudes regarding breast self-examination. *Health Care Women Int*. 38(8):786-795.
- SeifNy, Aziz M.A (2000). Effect Of Breast Self-Examination Training Program on Knowledge, Attitude and Practice of a Group of Working Women. *Journal of The Egyptian National Cancer Institute*, 12(2):105-115.
- Siahpush M., Singh G.K (2002). Socio-demographic Variations in Breast Cancer Screening Behavior among Australian Women: Results from the 1995 National Health Survey. *Preventive Medicine*, 35: 174-180.
- Simon Cs (2006). Breast Cancer Screening: Cultural Beliefs and Diverse Populations. *Health & Social Work*, 31(1):36-42.
- Skinner CS, Arfken CL, Sykes RK (1998).Knowledge, Perceptions, and Mammography Stage of Adoption among Older Urban Women. *Am Journal Preventive Medicine*, 14:54-63.
- Smith R.A., Cokkinides V., Eyre H.J (2003). American Cancer Society Guidelines for the Early Detection of Cancer, *Cancer Journal for Clinicians*, 53: 7-43.
- Somunoglu S (2009).Breast Cancer: Symptoms and the screening methods used for early diagnosis.*Firat Health Services Journal*, 4(10):103-122.
- Tang T.S., Solomon I.J., Mccracken L.M (2000). Cultural Barriers to Mammography, Clinical Breast Exam, and Breast Self-Exam among Chinese-American Women 60 and Older. *Preventive Medicine*, 31: 575-583.
- T.Oran N, O.Can H, Senuzun F, D.Aylaz R (2008). Health Promotion Lifestyle And Cancer Screening Behaviors: A Survey Among Academician Women. *Asian Pacific J Cancer Prev*,9: 515-518.
- Turkish Health Ministry (2012). Top ten cancer types seen among the women in Turkey. <http://www.saglik.gov.tr/tr/belgegoster.aspx?>
- Walker Sn, Sechrist Kr & Pender Nj (1987).The Health Promoting Lifestyle Profile Development and Psychometric Characteristics. *Nursing Research*, 36(2): 76-80.
- Wei G, Borum MI (2000). Breast Self- Examination in Women in Two Primary Care Settings: An Evaluation of the Impact of Insurance Status. *Journal of Women's Health & Gender-Based*, 9(3):311-314.
- Veronesi U, Boyle P, Goldhirsh A, Orecchia R, Viale G (2005). Breast Cancer. *Seminars*, 365(14):1727-1731.
- Yavan T, Akyuz A, Tosun N, Iyigun E (2010). Women's Breast Cancer Risk Perception And Attitudes Toward Screening Tests. *Journal of Psychosocial Oncology*, 28(2): 189-201