

## RESEARCH COMMUNICATION

# Breast Cancer Screening Behavior in Turkish Women: Relationships with Health Beliefs and Self-esteem, Body Perception and Hopelessness

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### Abstract

The purpose was to examine breast cancer screening behavior in Turkish women, the reasons for not doing screening and the relationship between health beliefs and levels of self-esteem, body perception, and hopelessness. This research was conducted as a descriptive, correlational study in an area covered by three neighborhood primary health care clinics in Bornova, Izmir. The data were collected between April and November 2006 from 382 women over 40 years of age who were selected using a stratified random sampling method and a descriptive information form, Champion's Health Belief Model Scale (CHBMS), the Rosenberg Self-Esteem Scale (RSES), the Body Cathexis Scale (BCS) and the Beck Hopelessness Scale (BHS). The breast cancer screening methods used by women participating in the research were, respectively, mammography (34%), clinical breast examination (14.1%), breast self-examination (BSE) (59.4%). The reasons why women did not do breast cancer screening methods were determined to be: not having any symptoms, neglect, not sensing the need, and not knowing how BSE is done. In the examination of the women's CHBMS subscale score means and RSES, BCS and BHS score mean a statistically significant relationships were determined between Benefits-BSE, Barriers-BSE, Confidence, Health motivation, Benefits-mammography and barriers-mammography subscale score means and RSES, BCS and BHS mean scores ( $p < 0.01$ ). It was found out that women with high level of self-esteem, high level of hope for the future and with a positive body perception have more positive health beliefs on breast cancer screening.

**Key Words:** Breast cancer – screening - self-esteem - body perception – hopelessness - Turkish women

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### Introduction

According to the most recent reports of the Turkish cancer registry, breast cancer is currently the most common female cancer, accounting for 26.58 % of all cancers diagnosed among women (Ministry of Health, 2003). In addition the early diagnosis of breast cancer is very important for the treatment of the disease, for extending life and for improving quality of life (American Cancer Society, 2007). According to research studies, screening programs significantly decrease the mortality of breast cancer (Blanks et al., 2000; Anderson et al., 2006). The recommended methods for early detection of breast cancer are breast self-examination (BSE), mammography and clinical breast examination (CBE) (American Cancer Society, 2007). However both throughout the world (Lierman et al., 1999; Austoker, 2003; Consedine et al., 2004a) and in Turkey (Secginli, 2002; Findik and Turan, 2004; Gözüm and Aydın, 2004; Secginli and Nahcivan 2006), research has shown that the breast cancer screening behaviors of women is not at the desired level.

In the examination of the literature it has been reported that women's breast cancer screening behaviors are

affected by various demographic and sociocultural factors. Higher levels of education, adequate income, having health insurance, and physician's recommendation are associated with an increased likelihood of breast cancer screening. Inability to access diagnostic and treatment opportunities, lack of time, poverty, high cost, insufficient knowledge about breast cancer and breast cancer screening, communication barriers, minority status, and cultural beliefs such as cancer fatalism are associated with lower levels of breast cancer screening behaviors (Miller and Champion 1996; Holm et al., 1999; Facione et al., 2000; Aro et al., 2001; Consedine et al., 2004a; Thomas 2004; Moy et al., 2006).

The relationship between women's breast cancer screening behaviors and cognitive factors have generally been examined within the framework of the Health Belief Model (Miller and Champion, 1996; Holm et al., 1999). Some studies have also been conducted in Turkey for the purpose of examining women's breast cancer screening behaviors within the scope of the Health Belief Model (Gözüm and Aydın, 2004; Secginli and Nahcivan, 2004; Secginli and Nahcivan, 2006). According to the findings obtained from studies conducted within the framework

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of this model a relationship has been reported between women's perceived susceptibility to and seriousness of breast cancer and screening behaviors, and their perceptions of benefits and obstacles have been reported to have an effect on screening behaviors (Holm et al., 1999; Secginli and Nahcivan 2006).

In addition to demographic, sociocultural and cognitive factors, psychological factors also have an effect on women's breast cancer screening behaviors. In the examination of research conducted on this subject it was determined that the psychological factors affecting women's breast cancer screening behaviors include fear, anxiety, cancer worry, embarrassment, denial, repression (Chaitchik and Kreitler 1991; Caplan et al., 1996; McCaul et al., 1996; Thompson et al., 1997; Edwards and Jones, 2000; Aro et al., 2001; Consedine et al., 2004a). However, in review studies it has been reported that different results have been obtained about the effect of psychological factors (Consedine et al., 2004b; Hay et al., 2005; Watson et al., 2005).

In some studies high level of fear of cancer, worry and anxiety increase the carrying out of screening behaviors (Caplan et al., 1996; McCaul et al., 1996; McCaul et al., 1998; Edwards and Jones 2000; Consedine et al., 2004a), with the attitude, "it's better not to know" (Aro et al., 2001; Schwartz et al., 2003). According to the results of one study a high level of repression increases carrying out screening behaviors (Consedine et al., 2004a), but in another study a high level of repression was reported to decrease the implementation of screening behaviors (Chaitchik and Kreitler 1991). In another study (Caplan et al., 1996) a high level of denial was found to have a negative effect on breast cancer screening behavior.

Embarrassment has been reported to be another important factor that is an obstacle to women's breast cancer screening behavior (Thompson et al., 1997; Facione et al., 2000, Consedine et al., 2004a). BSE, mammography and CBE are physical procedures and individuals' perceptions and feelings about themselves and their bodies can affect their healthy living behavior. For example a woman's low self-esteem and poor perceptions of her breasts may cause her to avoid examinations, such as her own BSE, mammography, and CBE, that require her to show or touch her body. Thomas (2004) examined the relationship between women's past memories and feelings and early diagnostic behaviors in cancer and determined that women with negative perceptions avoided screening, like mammography and clinical breast examination. In a study conducted by Moy et al. (2006) it was reported that Chinese women behaved bashfully about problems related to their bodies and for this reason they did not want to show their breasts for the purpose of examination. In addition in two different studies it was reported that women preferred to have female health professions during mammography and CBE procedures because of their embarrassment (Facione et al., 2000; Moy et al., 2006). Self-esteem ensures that individuals have self-confidence and self-appreciation. Body perception is one of the most determinative characteristics of self-esteem. There is a close relation between one's desire for leading a healthy life and his / her desire for preventing diseases and taking

care of himself/ herself. A person who loves and accepts his / her body is concerned with his / her health and searches for health-promoting lifestyle behaviors. On the other hand, lack of concern in their body causes women to neglect their body and health (Azaiza and Cohen). Moreover, the desire for leading a healthy life, and expectations and hopes for the future may affect one's health-promoting lifestyle behaviors such as participating in cancer screening programs. Hope is a dynamic power that gives strength to an individual to adapt to the future, that ensures they show interest in their future lives, and that supports positive development (Cutcliffe and Herth 2002). Hopelessness, however, is negative expectations and evaluations of the future.

The low level of breast cancer screening behaviors of women in both Turkey (Fındık and Turan, 2004; Gözüim and Aydın, 2004; Secginli, 2002; Secginli and Nahcivan, 2006), and in other different cultures (Miller and Champion, 1996; Lierman et al., 1999; Austoker, 2003; Consedine et al., 2004a; Breen et al., 2007; Espey et al., 2007) makes it necessary to examine the factors that affect women's screening behaviors. The effect of various psychological factors on women's breast cancer screening behaviors have been examined for this purpose in some studies (Chaitchik and Kreitler 1991; Caplan et al., 1996; McCaul et al., 1996; Thompson et al., 1997; Edwards and Jones 2000; Aro et al., 2001; Consedine et al., 2004a). However there were no studies found in the literature which examined the three psychological factors of self-esteem, body perception and hopelessness together on women's breast cancer screening behaviors. The effect of self-esteem, body perception and hopelessness on breast cancer screening behaviors can help health care professionals find new approaches to increase women's screening behaviors.

Based on these reasons the purpose of this research was to assess Turkish women's breast cancer screening behaviors, and to explore the reasons why women do not carry out breast cancer screening behaviors, and to examine the relationship between women's health beliefs on breast cancer screening behaviors and levels of self-esteem, body perception and hopelessness.

## Materials and Methods

### *Sample and Setting*

This research was planned as a descriptive and cross-sectional study. This research was conducted in the region covered by three community based primary care clinics in Bornova, Izmir between April and November 2006. Participants who met sampling criteria were asked if they would like to participate in the study. Those who indicated consent were included in the study. The research sample was comprised of 382 Turkish women.

The sample selection criteria were:

- 40 years and over
- not previously diagnosed with breast cancer
- can read and write in Turkish
- agree to participate in the research

A stratified random sampling method was used for sample selection. By coincidence the three health clinics are in a region of Bornova, Izmir, and the women over 40 years of age registered at these clinics were stratified according to their age. The data were collected by going to the selected health clinic using a face-to-face interview method.

### *Instruments*

**Descriptive Information Form:** This form was developed by the researchers and contained questions directed at determining the women's sociodemographic characteristics (age, marital status, whether they had a child, educational level, perceived economic status, whether or not they had health insurance), their status of knowing about breast cancer (having information about breast cancer, source of information about breast cancer), breast cancer screening behaviors (carrying out BSE, frequency of doing BSE, having mammography done, frequency of having mammography done, having CBE done, frequency of having CBE done) and reasons for not doing screening behaviors (reasons for not doing BSE, reasons for not having mammography done, reasons for not having CBE done).

**Champion's Health Belief Model Scale (CHBMS):** This scale developed and revised by Champion (1984, 1993), measures the HBM constructs related to breast cancer and screening behaviors and the validity and reliability study for the Turkish version of the instrument was conducted by Secginli and Nahcivan (2004). Champion's revised Health Belief Model Scale is a 53-item self-report measure, representing 8 scales, namely, susceptibility to breast cancer (5 items); seriousness of breast cancer (7 items); benefits-BSE (6 items); barriers-BSE (6 items); confidence (11 items); health motivation (7 items); benefits mammography (6 items); and barriers-mammography (5 items). All the items have 5 response choices ranging from "strongly disagree (scores 1 point)" to "strongly agree (scores 5 points)", which are basically a summation of the responses. Higher scores indicate stronger feelings related to that construct. All scales are positively related to screening behaviors except for barriers, which are negatively associated (Secginli and Nahcivan 2004).

The Cronbach alpha values obtained from the subscales in our study were, respectively;

1. Susceptibility to breast cancer: 0.95,
2. Seriousness of breast cancer: 0.82,
3. Benefits-BSE: 0.86,
4. Barriers-BSE: 0.86,
5. Confidence: 0.94,
6. Health motivation: 0.84,
7. Benefits mammography: 0.90,
8. Barriers-mammography: 0.86,

The total scale's Cronbach alpha value was determined to be 0.92.

**Rosenberg Self-Esteem Scale (RSES):** This tool was developed by Rosenberg (1965) and the validity and reliability study for the Turkish version was conducted by Çuhadaro\_lu (1986). The first 10 items of the scale are used for the evaluation of self-esteem. The score

received from the first 10 items is evaluated as high self-esteem for a total score of 0-1, average self-esteem for a total score from 2-4, and low for 5-6. Lower scores indicate higher levels of self-esteem (Çuhadaro\_lu 1986).

**Body Cathexis Scale (BCS):** This tool was developed by Secord and Jourard (1953) and the adaptation of the tool for Turkish was done by Hovardao\_lu (1993). The tool has 40 items. The items are in a 5-point likert type scale that ranges from 1=I don't like at all to 5=I really like. One score is received from the scale. The lowest possible score from the scale is 40 and the highest is 200 and 'an increase in score' state that higher scores indicate more positive evaluations (Hovardao\_lu 1993). The Cronbach alpha coefficient obtained from this tool in our study was determined to be 0.85.

**Beck Hopelessness Scale (BHS):** This tool was developed by Beck et al. (1974) and the Turkish adaptation was done by Seber in 1991 (Sava\_ır and \_ahin 1997). The tool has 20 items and the score range is 0-20. Obtaining a high score from the scale shows that an individual has a high level of hopelessness (Sava\_ır and \_ahin 1997). The Cronbach alpha coefficient obtained from this scale in our study was found to be 0.78.

### *Data analysis*

The data obtained from the research were evaluated in the SPSS 11.5 packet program using number, percentage distribution and Pearson correlation coefficient analysis.

### *Ethical considerations*

This study has passed Ethical Committee Review. The data were collected after permission was received from Ege University School of Nursing Ethics Committee and the institutions where the study was conducted. In addition during the data collection phase the women were briefly given information about the research and their verbal consent to participate in the research was obtained.

## **Results**

The demographic characteristics of the women who participated in the research are shown in Table 1. In Table 2 the women's status of carrying out breast cancer

The reasons why women did not do breast cancer screening behaviors are given in Table 3. As can be seen the primary reasons why women did not have mammography done were because they did not have any symptoms, neglect, and not sensing a need. The same was the case for CBE. According to the findings obtained the women's reasons for not doing BSE were neglect, not having any symptoms, not knowing how to do BSE, and not finding the time.

The relationships between the women' CHBMS subscale scores in comparison with RSES, BCS and BHS mean scores can be seen in Table 4. With RSES a statistically significant negative relationship was determined with Benefits-BSE, Barriers-BSE, Confidence, Health motivation, Benefits-mammography and Barriers-mammography subscale scores. Lower RSES scores indicate higher levels of self-esteem, so the negative

**Table 1. Demographic Characteristics (n=382)**

Age group (y)	40-49	181 (47.4)
	50-59	130 (34.0)
	60-69	48 (12.6)
	70 +	23 (6.0)
Age mean		51.3 (SD=9.2)
Marital status	Single	11 (2.9)
	Married	312 (81.7)
	Widowed/Divorced	59 (15.4)
Have children	Yes	356 (93.2)
	No	26 (6.8)
Education status	Literate	42 (11.0)
	Primary school	163 (42.7)
	High school	50 (13.1)
	University	127 (33.2)
Perceived income	High	54 (14.1)
	Average	272 (71.2)
	Low	56 (14.7)
Health insurance	Yes	348 (91.1)
	No	34 (8.9)
Have a information about breast cancer	Yes	287 (75.1)
	No	95 (24.9)
Sources of information about breast cancer (n=287*)	Television/radio	138 (48.1*)
	Health care staff	124 (43.2*)
	Book/brochure	25 (8.7*)

\*Only most important listed

**Table 2. The Women's Breast Cancer Screening Behavior (n=382)**

Mammography	Yes	130 (34.0)
	No	252 (66.0)
Frequency of mammography (n=130)	Once a year	38 (29.2)
	Biyearly	16 (12.3)
	Only once	70 (53.9)
	Only twice	6 (4.6)
Clinical breast examination (CBE)	Yes	54 (14.1)
	No	328 (85.9)
Frequency of CBE (n=54)	Once a year	15 (27.8)
	Only once	39 (72.2)
Breast self examination	Yes	227 (59.4)
	No	155 (40.6)
Frequency of BSE (n=227)	When it comes to mind	106 (46.7)
	Once a month	62 (27.3)
	Frequently	45 (19.8)
	Every six months	14 (6.2)

relationship means that women with higher levels of self-esteem were more likely to perceive benefits. With the BCS score a significant positive relationship was found with Benefits-BSE, Barriers-BSE, Confidence, Health motivation, Benefits-mammography and Barriers-mammography subscales score means and BCS score mean. Higher BCS scores indicate positive body perception. With the BHS score, indicating hopelessness, a significant negative relationship was determined with Benefits-BSE, Barriers-BSE, Confidence, Health motivation, Benefits-mammography and Barriers-mammography subscale score means.

**Table 3. Reasons Why Women Did Not Undergo Breast Cancer Screening**

Reasons for not having mammography (n=252)	
Not having any symptoms	102 (40.5)
Neglect	70 (27.8)
Not sensing a need	60 (23.8)
Dislike of going to the doctor	18 (7.1)
Not having health insurance	14 (5.6)
Embarrassment	10 (4.0)
Not finding the time	10 (4.0)
Fear that the cancer will be found	8 (3.2)
Not wanting to be exposed to radiation	4 (1.6)
Reasons for did not having CBE (n=328)	
Not having any symptoms	156 (47.6)
Neglect	56 (17.1)
Not sensing a need	48 (14.6)
Dislike of going to the doctor	24 (7.3)
Not having health insurance	14 (4.3)
Not finding the time	12 (3.7)
Embarrassment	10 (3.0)
Fear that the cancer will be found	8 (2.4)
Reasons for not doing BSE (n=155)	
Neglect	64 (41.3)
Not having any symptoms	56 (36.1)
Not knowing how to do BSE	44 (28.4)
Not finding the time	16 (10.3)

The participants could give more than one response. Therefore percentages for each item do not add up to 100%

## Discussion

The majority of the women participating in the research were middle-aged, married, had a primary level of education, an average income level, and had social security health insurance. According to the findings obtained in this research the overwhelming majority of the women participating in the research had information about breast cancer, and the primary sources of this information were television/radio and health care personnel. This finding lends support to the literature on television as an effective means of providing information on breast cancer and screening methods (Çevik et al., 2005).

The rate of women having mammography was low and similar to that found in other studies (Secginli, 2002; Secginli and Nahcivan 2006). The American Cancer Society (2007) has reported that 70% mammography screening level in the past 2 years for women over 40 years. However, recent data from 2007, reveal a decline from 70% to 66%. In a study conducted by McPhee et al. (2002) higher rates were obtained, from 66.7-89.3% of women from different ethnic groups had mammography done. The rate of women having a CBE was low which is comparable to other studies of CBE among Turkish women (Günel and Günel 2000).

More than half of the participating women do BSE but a with relatively few do BSE at the recommended frequency of every month. Other studies on the rate of BSE among Turkish women report a range of 14% to 27% for monthly BSEs (Gözüm and Aydın 2004; Parlar et al., 2004; Çevik et al., 2005; Secginli and Nahcivan 2006). It was seen that 31-84% of women do BSE in a study conducted with different ethnic groups of women by Kudadjie-Gyamfi et

**Table 4. Relationships Between Champion's Health Belief Model Scale (CHBMS) Subscale Scores and Rosenberg Self-Esteem Scale (RSES), Body Cathexis Scale (BCS) and Beck Hopelessness Scale (BHS) Mean Scores (n=382)**

Subscales	RSES		BCS		BHS	
	r	p	r	p	r	p
Susceptibility	-0.007	0.891	-0.095	0.063	-0.045	0.380
Seriousness	0.083	0.103	-0.080	0.117	0.015	0.776
Benefits-BSE	-0.316	0.000	0.202	0.000	-0.321	0.000
Barriers-BSE	-0.262	0.000	0.191	0.000	-0.147	0.004
Confidence	-0.203	0.000	0.199	0.000	-0.235	0.000
Motivatation	-0.327	0.000	0.271	0.000	-0.317	0.000
Benefits*	-0.307	0.000	0.176	0.001	-0.183	0.000
Barriers*-	-0.306	0.000	0.167	0.001	-0.185	0.000

\* of mammography

al. (2005). Other studies on the rate of BSE among Asian women report a range of 34% to 55% for monthly BSEs (Ho et al., 2005; Islam et al., 2006). Based on these results it is clear that BSE, which has an important place in the early diagnosis of breast cancer, is not done regularly every month by the majority of women in our country.

The primary reasons why women did not have mammography, CBE, and BSE done were not having any symptoms, neglect, not sensing the need, not knowing how to do BSE, and not finding the time. Other reasons stated by the women at lower rates were dislike of going to the doctor, not having health insurance, embarrassment, not having the time, fear that the cancer will be found, and not wanting to be exposed to radiation. These findings are similar to those of other studies (Aro et al., 2001; Findik and Turan, 2004; Young and Severson, 2005). According to a study conducted by Aro et al. (2001) the primary reasons why women did not have mammography done were being busy at work and at home, feeling pain and concern about receiving radiation from mammography, fear that the result might be cancer, and not having any symptoms of breast cancer. In a study by Young and Severson (2005) obstacles to having mammography done that women reported were not having health insurance, accessibility, inadequate time and knowledge. In a study by Ço\_kun and Hatipo\_lu (2000) which examined the reasons why women do not have mammography done the primary reason (44.2%) was finding a mass or cyst in the breast. In addition in this study 77% of the women were concerned about the side effects of mammography. Findik and Turan (2004) reported that the reasons why women do not regularly do BSE include not having any complaints, forgetting, not wanting to do it, not wanting to feel uncomfortable, fear, and feeling that it was stressful. In the study conducted by Parlar et al. (2004) only 24.5% of the women knew that BSE was done for early diagnosis of breast cancer. Based on these results it can be said that the reasons why women did not do breast cancer screening behaviors in Turkey are similar.

In this research, it was found out that there is a relation between women's health beliefs on health screenings and self-esteem, body perception and level of hopelessness. According to the relations found in the research, women

with high level of self-esteem, high level of hope and with a positive body perception have a higher self-confidence and motivation related to health and breast cancer screenings. Moreover, women with high level of self-esteem, high level of hope and with a positive body perception perceive more benefits and less barriers in terms of mammography and BSE. According to these results, women with high level of self-esteem, high level of hope for the future and with a positive body perception attach more importance to their health and breast cancer screening methods.

In conclusion, the overwhelming majority of the participating women had information about breast cancer and their primary source of this information was television/radio. The women had a low level of carrying out breast cancer screening methods and their doing these again at regular intervals was at an even lower level. The primary reasons why women did not carry out breast cancer screening methods were not having any symptoms, neglect, not sensing the need, and not knowing how to do BSE. As a result of the research, it was found out that women with high level of self-esteem, high level of hope for the future and with a positive body perception have more positive health beliefs on breast cancer screenings.

As a result of the findings obtained from this study it is suggested that organizing educational programs directed at increasing women's level of knowledge about breast cancer and methods of early diagnosis would be beneficial. The results of this study can be used to develop breast cancer screening programs that take into consideration cultural characteristics as well as psychological factors, such as self-esteem, body perception and hopelessness. Conducting similar research in different samples directed at defining psychological factors that affect women's breast cancer screening methods would clarify the research results. One limitation should be mentioned. BSE is a screening method suggested for women above the age of 20. However, women between 20 and 40 were not included in this research. Therefore, this age group should be a focus in future work.

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