

## RESEARCH COMMUNICATION

# Socio-demographic Factors and the Practice of Breast Self Examination and Mammography by Turkish Women

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### Abstract

**Objective:** The health beliefs and experiences of women related to preventive behavior must be understood within the cultural context. The present study was conducted to assess socio-demographic characteristics affecting breast cancer health beliefs of Turkish women. **Methods:** This research was conducted in an area covered by three neighborhood public education centres in Bornova, Izmir. The data were collected from 382 women over 40 years of age who were selected using a stratified random sampling method, using a descriptive information form and the Champion's Health Belief Model Scale (CHBMS). Data was analyzed by t test, variance analysis and Duncan test. **Results:** Some 40.6 % of women performed BSE, and 34.0% had undergone mammography. There was a significant difference in CHBMS total mean score of women according to age, marital status, family type, regarding information about breast cancer. Variation in scores on susceptibility, seriousness, benefits, barriers, health motivation, and confidence were observed regarding women who performed BSE ( $p < 0.05$ ) but not mammography. **Conclusion:** The effective socio-demographic characteristics of breast cancer health beliefs of women should be considered in the design of breast health promotion and screening programs because they are likely to have a bearing on Turkish women's attitudes regarding the value they perceive in cancer screening.

**Key Words:** Breast self examination - mammography - health beliefs of Turkish women

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### Introduction

Breast cancer is the most frequently seen type of cancer in women both the developing and developed countries (American Cancer Society, 2009-2010). According to recent reports of the Turkish health registry, breast cancer is the most common female cancer and 26.5% of all cancer diagnosed among women (Ministry of Health Turkey, 2003). More specifically, Fidaner et al (2001) also found breast cancer was the most frequent cancer of women, accounting for 26.7 % of female cancers in women who live in Western Turkey.

Early detection and effective treatment are important for decrease morbidity and mortality of breast cancer. Early detection of breast cancer include mammography, clinical breast examination (CBE) methods and breast self examination (BSE) (Blanney et al., 2000; American Cancer Society, 2009-2010). While the Kokta Pilot Project found that BSE has improved early detection and reduced mortality (Hakama et al., 1995) Russian (Semiglazov et al., 1999), Shanghai (Thomas et al., 1995) studies revealed no improvements in stage shifting or mortality reduction. Although the American Cancer Society no longer recommends that all women perform monthly breast selfexams (BSE), women should be informed about the potential benefits and limitations associated with BSE. Research has shown that self awareness is more effective

for detecting breast cancer than structured BSE (American Cancer Society, 2009-2010). Awareness of breast cancer prevention is needed for the people of developing countries. BSE awareness is important a health-promoting behavior in these countries (Tara et al., 2008; Knaul et al., 2009). For this reason health beliefs and experiences of women related to preventive behavior must be understood within the cultural context in developing countries as Turkey.

The health belief model is one of the models, used widely in understanding and explaining the person's attitudes and behaviors toward early detection. The Health Belief Model (HBM) suggests that women's attitudes and beliefs about BSE and mamography. In several studies, perceived susceptibility, benefits, barriers, confidence, and health motivation have been found to be significantly related to BSE and mamography (Champion 1993; Lagerlund et al., 2000; Wu and Yu, 2003; Karayurt and Dramali, 2007). However, perceived seriousness and benefits were not significant in explaining BSE performance (Lee, 2001; Petro-Nustus and Mikhail 2002).

In addition to demographic factors, sociocultural influence also has an effect on women's breast cancer screening behaviors. According to a study in western Turkey, was statistically a significant relations between age, education, marital status, health insurance, family type, breast cancer history of family/friends and BSE

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practice on monthly (Dündar et al., 2006) . The same result was found in Iran, but not to personal and family history of breast problems (Montazeri et al., 2008). In addition, a study showing BSE practice of Kuwaiti women to be low showed main factors affecting BSE to be occupation, friends and relatives as a source of knowledge about breast cancer or BSE, their opinions regarding best age to start examination and level of their knowledge about breast cancer (Al-Qattan et al., 2008).

The aims of the present study were to determine the socio-demographic characteristics affecting breast cancer health beliefs of women in Bornova-Izmir, an area of western Turkey.

## Materials and Methods

### Sample and Setting

This research was a descriptive and cross-sectional study conducted in three public education centres of Bornova, Izmir, over a period of eight months. The research sample was 382 Turkish women who were 40 years and over, not previously diagnosed with breast cancer.

### Instruments

Descriptive information form was developed by the researchers. It was about women's sociodemographic characteristics (age, marital status, family type, education status, health insurance, long lived regions, economic status, learned BSE that person, place or object, in risk group), breast cancer screening behaviors (regular frequency of doing BSE practice, frequency of having mammography and doctor control).

The Champion's Health Belief Model Scale (CHBMS) 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). The 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 barriersmammography (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 total scale's Cronbach alpha value was determined to be 0.92. 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

### Data Analysis

The data obtained from the research were evaluated number, percentage distribution and Oneway ANOVA, t test analysis in the SPSS 15.0.

## Results

### Description of the Sample

The mean age of respondents was 51.3 (SD=9.2, range 40–72) years. Most of them were married (n= 312) and Muslim. Nearly all of them had degrees, while 8.9% (n=34) had no medical insurance. A total of 42.7% (n=163) of women were primary school graduates, 75.1% (n=287) of them had a information about breast cancer. They heard information about breast cancer 48.1% (n=138) in TV/ radio, 43.2%(n=124) by doctors and nurses.

According to the women's responses 40.6%(n=155) of them had no knowledge about breast self examination, 66% (n= 252) had never had a mammography and 74.3% (n= 284) had never had CBE. Practicing BSE of women was irregular (40.6%, n=155). Only 27.3% (n= 62) of them had done BSE once a month.

### General Measures For Breast Awareness

Women performed 40.6 % of their BSE, 34.03% of their mammography. Presents comparisons of subscale mean ranks of CHBMS on BSE and mammography practice and non-practice groups. There was a significant difference in the scores on susceptibility, seriousness, benefits, barriers, health motivation, confidence between women who performed BSE (p<0.05). Susceptibility and seriousness were not significant variables in

**Table 1. Correlations between BSE Once a Month, Mammography and Subscale Scores of the CHBMS**

CHBMS Subscale	BSE Practice (n=155)	BSE Practice/Nonpractice T	p	Mammography Practice (n=130)	Mammography Practice/Nonpractice T	p
Susceptibility	9.3 ± 3.12	3.03	0.03	9.7 ± 3.07	0.11	0.91
Seriousness	21.4 ± 4.37	1.94	<0.05	21.7 ± 4.60	0.36	0.71
BSE-benefit	22.7 ± 4.05	5.50	<0.05	22.9 ± 3.83	3.76	<0.05
BSE-barrier	24.1 ± 3.78	6.30	<0.05	24.2 ± 3.72	3.97	<0.05
Confidence	38.2 ± 7.03	11.0	<0.05	37.6 ± 6.25	4.72	<0.05
Health Motivation	27.5 ± 4.80	6.78	<0.05	27.1 ± 4.70	2.78	<0.05
Mammography benefit	25.0 ± 3.59	8.46	<0.05	25.3 ± 3.29	5.70	<0.05
Mammography barrier	19.7 ± 3.42	8.43	<0.05	19.8 ± 3.52	5.12	<0.05

**Table 2. Comparison of Sosyo Demographic Data and CHBMS Subscales N=382**

Sosyo Data	Susceptibility Value	F	Seriousness Value	F	BSE-benefit Value	F	FBSE-barrier Value	F	Confidence Value	F	Motivation Value	F	Mammography benefit Value	F	Mammography barrier Value	F	
<b>Age</b>																	
40-49	181	9.6	0.58	21.4	15.1**	22.2	1.78	23.5	6.50**	35.5	19.5**	26.7	4.83**	24.2	20.2**	18.9	19.8**
50-59	130	9.7		20.8		21.7		23.5		36.8		26.4		24.3			19.2
60-69	48	10.3		25.4		20.9		21.4		32.0		25.0		21.8			16.5
≥70	23	9.5		24.0		20.4		20.7		24.3		23.0		17.9			13.7
<b>Marital Status</b>																	
Single	11	10.2	0.60	19.0	3.28**	21.3	0.47	23.5	0.29	36.9	3.79**	27.2	0.79	22.5	3.84*	18.6	3.22*
Married	312	9.6		21.8		21.7		23.1		35.4		26.2		23.8			18.6
Divorced/Widowed	59	10.1		22.8		22.2		22.7		31.5		25.5		22.2			17.2
<b>Family Type</b>																	
Nuclear	314	9.7	0.47	21.8	0.61	21.7	2.06	23.2	1.75	35.3	2.93*	26.2	0.87	23.8	2.06	18.6	3.27*
Large	17	9.8		21.2		20.4		20.9		30.3		24.6		21.4			16.0
Alone	33	10.3		22.8		21.7		23.3		33.6		25.6		22.6			17.3
Fragmented	18	9.22		21.5		23.9		23.3		32.2		26.9		23.4			18.9
<b>Education Status</b>																	
Literate	42	10.3	0.71	23.4	3.19**	19.9	3.01**	19.5	12.9**	28.9	15.4**	23.8	6.17**	20.1	8.93**	15.3	11.7**
Primary	126	9.9		22.2		21.4		22.6		33.5		25.3		23.3			17.9
Secondary	37	9.35		22.7		22.6		23.5		31.8		27.5		23.9			18.0
High	50	9.5		20.6		21.9		23.9		36.5		26.5		24.0			19.6
University	127	9.48		21.2		22.3		24.3		38.3		27.2		24.6			19.5
<b>Family /friends history of breast cancer</b>																	
Yes	95	10.2	0.37	22.2	0.84	19.8	0.08	20.3	0.01*	29.2	0.06	23.2	0.24	20.6	10.39**	15.4	0.28
No	287	9.5		21.7		22.4		24.0		36.6		27.1		24.5			19.4
<b>Economic-Income level</b>																	
Poor	54	10.1	2.27	23.0	2.51	20.4	3.14*	20.4	14.2**	31.5	6.53**	24.4	7.88**	20.5	16.36**	15.5	19.7**
Good	272	9.8		21.7		21.9		23.5		35.0		26.1		24.0			18.7
Very good	56	8.9		21.1		22.2		23.5		37.0		28.0		24.3			19.7
<b>Source of information</b>																	
Friends	95	10.2	1.88	22.2	1.83	19.8	6.98**	20.3	19.0**	29.2	19.1**	23.2	15.7**	20.6	16.9**	15.4	22.2**
Printed	25	9.8		21.5		22.4		25.3		38.9		28.3		24.4			20.7
Tv/radio	138	9.4		22.4		22.2		23.8		35.4		26.3		24.4			19.2
Nurses	85	10.0		21.0		22.7		23.6		37.7		27.4		24.4			19.2
Doctors	39	8.7		20.9		22.5		24.8		37.5		28.5		25.3			19.6

\*, p&lt;0.05; \*\*p&lt;0.01

mammography practice group (p&gt;0.05) (Table 2).

### Socio-Demographic Characteristics and CHBMS Subscale Measures

Socio-demographic characteristics of women with their the health belief model subscale mean scores were examined. When a statistical significance was not found between age and the scores of susceptibility, BSE-benefit, there was significance between age and the scores of other beliefs. A statistical significance was found between marital status and the scores of seriousness, confidence, mammography benefit, mammography barrier. There was statistically significant difference between family type and the score of confidence, mammography barrier. A statistical significant was not difference between the status of education, economic and susceptibility score.

### Discussion

The literature supports that regular practice of BSE influences BSE awareness (Tara et al., 2008; American Cancer Society, 2009-2010; Knaul et al., 2009). In the present study only 40.6% of women reported practicing BSE on a irregular monthly while 27.3% stated that they examined themselves regularly. Some studies have reported approximately similar result for practice BSE monthly (Dündar et al., 2006; Montazeri et al., 2008; Abd El Aziz et al., 2009). In this study, also, less than half of women (44%) had a screening mammogram. The rate of

mammography practice was low in Secginli's study-Turkey (Secginli and Nahcivan, 2004) and another in Iran (Montazeri et al., 2008).

In this study susceptibility to breast cancer, seriousness of breast cancer, benefits-BSE, barriers-BSE, confidence, health motivation, benefits mammography, barriers-mammography were statistically significant in BSE performance by regular. In other study with Turkish Women were not significant seriousness, susceptibility and motivation in BSE practice (Dündar et al., 2006). Benefit perception of women for BSE were more likely to perform BSE in the others studies (Champion, 1993; Secginli and Nahcivan, 2004).

Breast awareness with BSE for breast cancer may be different perceived by serious psychological and social events and aspects of all women (Eun-Hyun, 2003). Thus, it may be different results between BSE performance of women and subscale of CHBMS in statistically variables. Benefits, barriers, confidence, health motivation, benefits mammography, barriers-mammography were statistically significant factor for mammograph in this study. Only motivation with mammography was parallel to earlier results (Holm et al., 1999; Dündar et al., 2006). Other studies with benefit perception of Asian women were not significant BSE practice and having a mammography (Lee and Lee, 2001; Petro-Nustas, 2001). In addition to confidence strongly related to having a mammogram (Champion et al., 2005). It was a statistically significant difference between mammography barrier perception and

having a mammography in this study.

Advancing age of women for breast cancer in Turkey were found to be an increase in the perception of seriousness. BSE for the young women were perceived more barriers. Young women had higher self-esteem and motivation. Moreover, independent decision, motivation and confidence of Turkish young women is higher than elderly. Thus young women can be more readily BSE by online and television. Young women's barrier perceptions of mammography and BSE can be explained business, caring children, or social activities. It wasn't significant between sensitive to BSE and age of women in this study. It was same condition for believed to be useful of BSE. The risk of breast cancer increases with age process. This situation may have influenced benefits and susceptibility perception of BSE (Gross, 2000).

Unmarried women had a lower perception of severity but they had higher self-esteem for breast cancer. They may increased their confidence with living of independent in Turkey. The husbands of married women may have affected the perception of the seriousness of breast cancer. Women's benefits perception with level of education was increasing. However, the severity of illiterate women was higher in breast examination. It may increase the level of knowledge and perception of benefits. And women's benefit perception with in family or friends cancer history were higher. This was an expected result. But perception of disability of graduates can be explained with have a profession and many social activities.

Status of education and economic wasn't significant in susceptibility of BSE. This results were explainable that sociodemographic variables were not effective on BSE practice and having mammography (Eun-Hyun, 2003; Jirojwong and MacLennan 2003).

In conclusion, women use BSE and mammography for breast awareness and early diagnostic for breast cancer. In BSE practice and recommendations for mammograms may be achieved by reducing barriers. By using the CHBMS constructs for assessment, health professionals can determine beliefs, perceptions of women about BSE and mammography practice. When health professionals compare demographic variables with beliefs of BSE and mamography practice, they can better identify limitations, problems about BSE and mammography.

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