Research Article

Determination of Women's Health Beliefs, Breast Cancer Fears, and Fatalism Associated with Behaviors Regarding the Early Diagnosis of Breast Cancer

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Abstract

Background: Breast cancer screening can prevent cancer deaths. Fatalism and fear perceptions of women on breast cancer screening were considered in a few studies.

Objectives: The present study was conducted to determine the health beliefs, fears, and fatalism of Muslim Turkish women with regard to breast cancer screening.

Methods: The study was designed as cross-sectional study and conducted in the "Quran Courses" being taught under the administration of the Turkish Directorate of Religious Affairs in a city in Turkey. Women from the participants of 23 Quran courses in the city were included in the sample group on the basis of simple random sampling. The sample group consisted of 339 women aged above 40 years. Data collected by personal information form, the Breast Cancer Fear Scale, the Breast Cancer Fatalism Scale, and the Health Belief Model Scale. We were calculated the data with percentage, mean, standard deviation, One-way ANOVA and t test. Before the study was conducted, the necessary permissions were received from the Ethics Committee, the relevant institution, and the individuals involved.

Results: A significant relationship was determined between the educational levels of women and their degree of fatalism regarding breast cancer (t = 2.229, P = 0.027) as well as a familial history of breast cancer and their BSE self-efficacy perception (t = -2.311, P = 0.027). No significant statistical difference was determined between the socio-demographic characteristics of age, employment and marital status and respondents' health beliefs, fear, and fatalism.

Conclusions: As a result of the study, regular BSE, CBE, and mammography rates were estimated at 5.3%, 9.7%, and 9.4%, respectively and no significant relationship was determined between the screening behaviors of women and their degree of fear and fatalism.

Keywords: Breast Cancer, Early Diagnosis, Fear, Fatalism, Health Beliefs

1. Background

One in 8 women in western countries will experience breast cancer in their lives (1). In Turkey, breast cancer showed rates of 41 in 2009 and 46 per 100.000 women in 2013, respectively (2). Methods of early diagnosis are very crucial to prevent breast cancer (3, 4). However, studies indicate that women's behaviors regarding early diagnosis are not satisfactory (5-7). There are numbers of factors affecting the attitudes and behaviors of women towards early diagnosis. These include the cultural beliefs of individuals, their perceptions of health/disease, and the support of family and relatives (3, 8, 9). Educational materials developed on this topic will need to be culturally sensitive as their aim will be to increase behaviors leading to the early diagnosis of breast cancer and to decrease women's fear of cancer and their fatalism with regard to breast cancer screening. Health beliefs, fears and fatalism have been examined in different societies to increase the positive health behaviors associated with breast cancer screening. However, in Turkey is determined to be insufficient studies on this subject.

1.1. Health Belief Model

The Health Belief Model (HBM) is one of the most frequently used models in the examination of personal attitudes such as perceived sensitivity, seriousness, self-efficacy, barriers, benefits, and health behaviors. The model is utilized to explain behavioral changes with regard to health and the maintenance of health and in plan-

ning interventions for preventive health behaviors (5, 10). The key concepts and definitions of the Health Belief Model are as follow:

1.1.1. Perceived Sensitivity

Perceived sensitivity expresses one's beliefs about the possibility of getting a disease or condition. It is perceived subjective by individuals. One's opinion of the chances of getting a condition can be evaluated by determining population(s) at risk and their risk levels (5, 10).

1.1.2. Perceived Seriousness

Perceived severity defines the person's view of how serious a situation and its consequences are. They encounter illness, disability and even death. Their social roles (such as working and family life and relations) can be affected (5, 10).

1.1.3. Perceived Benefits

The perceived benefit is related to the perception of a person's behavioral change with how much benefit they will have in their lives. This perception refers to the belief in the question of how much it prevents disease risk if the person changes the health behavior (5, 10).

1.1.4. Perceived Barriers

It is the perception of the possible negative aspects of the behavior or the obstacles that make the proposed behavior difficult to achieve. Beliefs about costs, discomforts, unpleasant life changes can be an obstacle to health behaviors (5, 10).

1.1.5. Self-Efficacy

Self-efficacy is confidence in one's ability to take action. Even if a person thinks that the new health behavior will be positive, but if he/she believes can not do it, he/she will not be able to perform the behavior (5, 10).

1.1.6. Cues to Action

Cues to action are defined as anything or events that may increase awareness in performing the necessary health-related activity to prevent or treat health problem. Examples of cues include reminders, friends, peers and mass media campaigns about preventing a disease (5, 10).

This model is, thus, helpful in explaining why women don't want to participate in prevention and screening for breast cancer and the behaviors of women, who participate and those who do not. Moreover, the structure of the model allows for an inter-disciplinary approach to analyze human beliefs and attitudes within the framework of the social and behavioral sciences. This model claims that changes in behavior depend on individuals' beliefs, specific behavioral patterns, and habits.

The increasing number of campaigns about breast cancer screening may have a psychological influence with regard to breast cancer screening. The present study investigates the relationship between breast cancer fear and fatalism, considered as psychological factors that could have a significant effect on whether women participate in breast cancer screening (1, 3, 11).

1.2. Fear of Cancer

Fear has a negative effect on judgment, behavior, and our every-day practices. Phillips, Cohen, and Moses (1999) reported that fear was one of the barriers to participating in screening. Studies have addressed fears about breast cancer with regard to both barriers and benefits in terms of whether women participate in screening (1, 3, 11-13).

1.3. Cancer Fatalism

Another variable that has an effect on the participation of women in breast cancer screening can be determined as fatalism (14, 15). Fatalism is defined as the belief that everything in life will be determined by a supernatural power (such as God) and that one cannot control his or her life. In other words, it is the opinion that the life of individuals is predetermined (5). There is limited studies investigating the role of fear and fatalism in women's participation in breast cancer screening. No study focused on this subject has been found in the domestic literature. The findings of this research could, thus, be beneficial in terms of discussing how the psychological perceptions of women-such as their beliefs, attitudes-about participating in breast cancer screening change with respect to other societies.

In today's globalizing world, nurses take part in health promotion and disease prevention of individuals at each phase, through consultations related to early diagnosis, health assessments, and the transfer and screening of patients (3). Health professionals should be aware of the barriers preventing women from engaging in specific behaviors and consider these factors during treatment. In this regard, this study was conducted to determine the health beliefs, fears, and fatalism of Muslim Turkish women with regard to breast cancer screening. This study is important in terms of determining how women's health beliefs, breast cancer fears, and their fatalism are related to their behaviors regarding the early diagnosis of breast cancer and to provide the impetus to any future studies.

2. Methods

The study was designed as a cross-sectional study.

2.1. Participants

Culture and personal religious beliefs affects perceptions of health, illness and death, beliefs about causes of disease, approaches to health promotion and disease prevention. Fatalism plays a key role in Islam's message; in that case, God knows the future, in which everything will occur and that all things are preordained. In this study, a specific group of Muslim women taking courses on the Quran was used as the sample group; not all Muslim women attend these classes. The research was conducted at the "Quran courses" taught under the administration of the Turkish Directorate of Religious Affairs (TDRA) in a city in Turkey. According to the city directorate of the TDRA, there were 2,726 women registered in the Quran courses in the city in 2015 - 2016. For the sample group, the sampling selection formula for a determinant universe, one of the probability sampling methods, $[n = Nt^2pq/d^2 (N-1) + t^2pq]$ (N = 2843 p = 0.5, q = 0.5, t = 1.96 (α = 0.05), d = 0.05) (16) was utilized with a 95% significance level and 0.05 margin of error, and the size of the sample group was estimated to be 339 subjects.

2.1.1. The Inclusion Criteria for the Samples in the Study

All 40-year-old or older women, who did not have communication problems and had not been previously diagnosed with breast cancer, were included in the scope of the study.

2.1.2. The Exclusion Criteria for the Samples in the Study

Those who had mental problems or had been previously diagnosed with breast cancer were excluded.

Women from the participants in 23 Quran courses in the city center were included in the sample group on the basis of simple random sampling and 339 women, who agreed to participate in the study, were contacted. A list was made of women, who came to the Quran courses. These women were selected, using a random number table. Survey forms were filled out in the institution during the classes by the women themselves. The course instructors helped collect the data forms. Data collection took approximately 20 minutes. We were unable to contact 28 women (13 women did not agree to participate and 15 women did not meet the sampling criteria for this study). The approval of the Ethics Committee (15-KAEK-043) was obtained from the relevant institution (Permission Nr: 83116987-175).

2.2. Data Collection Tools

2.2.1. Personal Information Form

This form consisted of 13 questions concerning characteristics such as the women's age, educational status, marital status, employment, health security, economic status, and family type. The frequency of breast self-examination (BSE), clinical breast examination (CBE) and mammography were measured, using the following questions.

1. Do you examine your own breasts? (a) Never (b) Occasionally (c) Regularly (every month)

2. Do you attend clinical breast examinations? (Does your doctor or nurse examine your breasts?) (a) Never (b) Occasionally (c) Every year/every two years on a regularly basis

3. Do you attend mammograms? (a) Never (b) Occasionally (c) Every year/every two years on a regular basis

In this study, "regularly" is taken to mean that the woman over the age of 40 were engaged in monthly BSE and annual CBE and/or mammography.

2.2.2. Breast Cancer Fear Scale (BCFS)

Champion et al. was developed the BCFS in 2004 (12). Psychometric properties of the BCFS Turkish version was conducted by Secginli and its validity and reliability have been established. The Turkish scale consists of 8 items, can range from 8 - 40 points. The scales were rated on 5-point likert scales scored as 1 = Completely disagree to 5 = Completely agree. The greater the total score gained from the scale, the higher the fear of breast cancer. While the Cronbach's alpha coefficient was originally estimated at 0.91 for the scale (1), it was estimated at 0.92 for our study.

2.2.3. Powe's Breast Cancer Fatalism Scale (BCFS)

Powe's BCFS was developed in the USA (17). Mayo, Ureda, and Parker revised the original scale (18). Maximum score that can be had in the scale is "11" and the minimum one is "0". The greater the total score gained from the scale, the higher the level of fatalism regarding breast cancer. The internal coefficient of the original scale was reported as 0.89 (18). Powe's BCFS scale developed by Ersin et al. and consisting of 11 items whose validity and reliability have been done in Turkey (19). The KR-20 coefficient of PFI_{TR}-rPFI was estimated at 0.797; total item correlations were determined in the range of 0.264 to 0.530 (19). The Cronbach's alpha coefficient was estimated at 0.75 for the present study.

2.2.4. Health Belief Model Scale (HBMS)

Champion was developed the HBMS in 1984. This scale was adapted by Gozum and Aydin for use with Turkish people (20). The Turkish version of the HBMS consisted of 52 items that were clustered into eight subscales including sensitivity, seriousness, and health motivation, barriers, benefits and self-efficacy about BSE; and benefits and barriers to undergoing mammography. The scale items have a 5-point Likert format with the following coding: Strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Higher scores indicate stronger feelings related to that construct. The Cronbach's alpha values ranged between 0.69 and 0.83 (21).

2.3. Data Analysis

The data were analyzed by means of the SPSS version 20.0 package software. For the statistical significance of data, a level of P < 0.05 was determined. Percentages and means and standard deviations were used for descriptive statistics. One-way ANOVA, and *t* test were used in the statistical analysis.

3. Results

The mean age of the respondent women was 52.88 ± 8.72 years. In the present study, it was reported that 62.8% of participants had graduated from primary school, 91.4% were married, 92.9% were unemployed, the majority of them (92.6%) had social insurance, the incomes of 87.3% were equal to their expenditure, 67.8% were from a nuclear family, and 90.9% had no history of breast cancer in their family. When participation in breast cancer screening was considered, the regular BSE, CBE, and mammography rates were 5.3%, 9.7%, and 9.4%, respectively.

As seen in Table 1, women's breast cancer screening behaviors (regular BSE, CBE and mammography) were found to be low in all age groups. As the educational levels of the women increased, the rates of breast cancer screening through BSE, CBE, and mammography also increased. For unemployed women, the rate of regular BSE was 5.4%, of regular CBE was 9.5% and of regular mammography was 8.4%. For employed women, these rates were 4.2%, 12.5%, and 16.7%, respectively. The regularity of performing breast cancer screening behaviors significantly differed according to marital status and their family history (Table 1).

Table 2 shows the women's mean scores from the Breast Cancer Fear, Fatalism, and Health Belief Model Scale sub-dimensions. According to Table 2, the women's mean score from the Breast Cancer Fear Scale was 24.89 ± 9.01 and the mean score from the Breast Cancer Fatalism Scale was 4.18 ± 2.37. Scores from the dimensions of the HBMS were as follow: sensitivity, 7.01 ± 3.05; seriousness, 18.20 ± 5.68; health motivation, 18.97 ± 5.39; benefit of BSE, 14.43 ± 4.24; barriers to BSE, 19.35 ± 6.53; BSE self-efficacy, 32.2 ± 9.04; benefit of mammography, 18.33 ± 4.7, and barriers to mammography, 27.18 ± 8.94 (Table 2).

There was no statistically significant difference found among BSE (F = 0.136, P = 0.872), CBE (F = 0.480, P = 0.619), and mammography (F = 2.277, P = 0.104) behaviors of respondent women with respect to their breast cancer fear and fatalism (Table 3).

According to Table 4, a statistically significant difference was determined between the educational levels of women and their breast cancer fatalism. Those with a low educational level had higher fatalism (*t* = 2.229, P = 0.027); and those having a family history of breast cancer in the had a lower perception of self-efficacy (*t* = -2.311, P = 0.027), but no significant difference was determined between socio-demographic characteristics such as age, employment, and marital status, and health beliefs, fear, and fatalism (Table 4).

4. Discussion

As in other societies, health belief and health behaviors in Turkey may be seriously affected by the cultural and religious values. In parallel to the findings of this study, the participation rates of women in breast cancer screening have been reported to be at a low level in studies in Turkey and around the world (4-7). In this study, regular participation in breast cancer screening was found to be higher among women aged 51 years and older, among those who had graduated from secondary school or above, those who were employed, and those with a history of breast cancer in their family. Whereas the rates of BSE and mammography among single women were higher, the CBE rate was lower with respect to married respondents. In one study, whereas employment status, age, and educational level were not found to be statistically significant in terms of the participation of women in breast cancer screening, married women's participation in mammography was determined to be significantly higher (22). Austin et al. reported that asymptomatic women and those who did not have a family history found participation in screening unnecessary (23). Breast cancer screening behaviors were influenced by age group except for mammography, and were not influenced by educational level except for CBE. Marital status and exposure to breast cancer were not variables, which influenced CBE or mammography (4).

These different findings may suggest the influence of different cultural and religious beliefs in different countries at different times. Our findings suggest that Turkish women do not attach importance to breast cancer screening. However, no significant specific reason for this behavior was found.

This research, the participant's fear in the breast cancer was determined to be at a high level, while their fatalism was at a medium level. In this study, the degree of fatalism was higher than in other studies (4, 24, 25). It has also been reported that fatalism was higher when self-efficacy was lower and that the belief the cancer could not be prevented were high among the women with a greater fear of cancer (26). The fear and fatalism experienced with regard to cancer are phenomena difficult to understand (27). Fear and fatalism related to breast cancer screening among Turkish women are multi-faceted issues, and this may reflect shared experiences within the health care system and community as well as the psychosocial context, in which Turkish women live. These findings suggest that women should be aware of their own religious and cultural values

Table 1. Screening Behaviors According to Descriptive Features of Women[a]

Screening Behaviors		Age		Education Level		Employment Status		Marital Status		Family History of Breast Cancer	
		40 - 50 Age	+51 Age	Primary School and Below	Secondary School and Above	Employed	Unemployed	Married	Single	Yes	No
BSE											
	No	49 (31.4)	65 (35.5)	103 (35.5)	11 (22.4)	9 (37.5)	105 (33.3)	102 (32.9)	12 (41.4)	9 (29.0)	105 (34.1)
	Irregular	100 (64.1)	107 (58.5)	173 (59.7)	34 (69.4)	14 (58.3)	193 (61.3)	193 (62.3)	14 (48.3)	19 (61.3)	188 (61.0)
	Regular	7 (4.5)	11 (6.0)	14 (4.8)	4 (8.2)	1 (4.2)	17 (5.4)	15 (4.8)	3 (10.3)	3 (9.7)	15 (4.9)
CBE											
	No	83 (53.2)	79 (43.2)	142 (49.0)	20 (40.9)	9 (37.5)	153 (48.6)	147 (47.4)	15 (51.7)	15 (48.4v	147 (47.7)
	Irregular	62 (39.7)	82 (44.8)	121 (41.7)	23 (46.9)	12 (50.0)	132 (41.9)	132 (42.6)	12 (41.4)	11 (35.5)	133 (43.2)
	Regular	11 (7.1)	22 (12.0)	27 (9.3)	6 (12.2)	3 (12.5)	30 (9.5)	31 (10.0)	2 (6.9)	5 (16.1)	28 (9.1)
Mammography											
	No	85 (54.5)	81 (44.3)	146 (50.3)	20 (40.9)	9 (37.5)	157 (49.8)	152 (49.0)	14 (48.3)	14 (45.2)	152 (49.4)
	Irregular	60 (38.4)	81 (44.3)	118 (40.7)	23 (46.9)	11 (45.8)	130 (41.3)	130 (41.9)	11 (37.9)	12 (38.7)	129 (41.8)
	Regular	11 (7.1)	21 (11.4)	26 (9.0)	6 (12.2)	4 (16.7)	28 (8.9)	28 (9.0)	4 (13.8)	5 (16.1)	27 (8.8)

Abbreviations: BSE, breast self-examination; CBE, clinical breast examination.
[a] Values are expressed as n (%).

Table 2. Women's Mean Scores from the Breast Cancer Fear, Fatalism, and Champion's Health Belief Model Scale Sub-Dimensions

Variables	Mean ± SD
Breast Cancer Fear Scale	24.89 ± 9.01
Breast Cancer Fatalism Scale	4.18 ± 2.37
Champion's Health Belief Model Scale sub-dimensions	
Sensitivity	7.01 ± 3.05
Seriousness	18.20 ± 5.68
Health motivation	18.97 ± 5.39
Benefit of BSE	14.43 ± 4.24
Barriers to BSE	19.35 ± 6.53
BSE Self-efficacy	32.2 ± 9.04
Benefits of mammography	18.33 ± 4.73
Barriers to mammography	27.18 ± 8.94

Abbreviations: BSE, breast self-examination, SD, standard deviation.

Table 3. Screening Behaviors According to the Breast Cancer Fear and Fatalism of Women[a]

Screening Behaviors		Breast Cancer Fear Scale			Breast Cancer Fatalism Scale		
		Mean ± SD	F	P Value	Mean ± SD	F	P Value
BSE			0.086	0.918		0.136	0.872
	No	25.18 ± 9.32			4.13 ± 2.53		
	Irregular	24.74 ± 8.79			4.19 ± 2.20		
	Regular	24.89 ± 10.00			4.44 ± 3.15		
CBE			0.199	0.819		0.480	0.619
	No	24.84 ± 8.77			4.06 ± 2.23		
	Irregular	25.15 ± 9.27			4.28 ± 2.47		
	Regular	24.06 ± 9.28			4.39 ± 2.60		
Mammography			0.283	0.754		2.277	0.104
	No	24.73 ± 8.88			3.97 ± 2.24		
	Irregular	25.27 ± 9.29			4.27 ± 2.36		
	Regular	24.04 ± 8.69			4.91 ± 2.93		

Abbreviations: BSE, breast self-examination, CBE, clinical breast examination, SD, standard deviation.
[a] F, one-way ANOVA tests and significant P < 0.05.

Table 4. Breast Cancer Fear, Fatalism and Champion's Health Belief Model Scale Sub-Dimension Perceptions According to Some Socio-Demographic Variables[a,b]

Characteristics	Breast Cancer Fear Scale	Breast Cancer Fatalism Scale	Champion's Health Belief Model Scale Sub-dimensions							
			Sensitivity	Seriousness	Health Motivation	Benefit of BSE	Barriers to BSE	BSE Self-efficacy	Benefit of Mammography	Barriers to Mammography
Age										
40 - 50	25.44 ± 7.98	4.09 ± 2.39	7.00 ± 2.94	18.68 ± 5.77	18.87 ± 5.40	14.29 ± 4.35	19.13 ± 6.37	31.59 ± 8.93	17.85 ± 4.65	27.27 ± 9.04
51 age+	24.43 ± 9.81	4.26 ± 2.35	7.01 ± 3.14	17.80 ± 5.58	19.04 ± 5.40	14.54 ± 4.15	19.53 ± 6.68	32.77 ± 9.12	18.74 ± 4.78	27.10 ± 8.87
t	1.39	-0.668	-0.004	1.427	-0.312	-0.546	-0.555	-1.202	-1.732	0.175
Pvalue	0.299	0.504	0.989	0.154	0.755	0.586	0.579	0.230	0.084	0.862
Educational level										
Primary school and-	24.82 ± 9.25	4.30 ± 2.39	6.94 ± 3.03	18.13 ± 5.66	19.05 ± 5.27	14.39 ± 4.17	19.46 ± 6.32	32.10 ± 8.95	18.45 ± 4.62	27.19 ± 8.65
Secondary school and+	25.33 ± 7.51	3.49 ± 2.10	7.43 ± 3.12	18.63 ± 5.84	18.49 ± 6.12	14.63 ± 4.70	18.67 ± 7.69	33.00 ± 9.61	17.63 ± 5.35	27.12 ± 10.60
t	-0.421	2.229	-1.043	-0.572	0.666	-0.370	0.781	-0.646	1.121	0.046
Pvalue	0.675	0.027	0.298	0.568	0.506	0.711	0.435	0.519	0.263	0.963
Employment status										
Employed	25.29 ± 9.28	3.71 ± 2.07	7.42 ± 3.18	18.54 ± 5.14	19.46 ± 5.96	14.04 ± 4.93	17.38 ± 7.15	31.83 ± 9.72	17.75 ± 6.24	25.21 ± 8.22
Unemployed	24.86 ± 9.01	4.22 ± 2.39	6.98 ± 3.04	18.18 ± 5.72	18.93 ± 5.36	14.45 ± 4.19	19.50 ± 6.47	32.26 ± 9.00	18.38 ± 4.61	27.33 ± 8.98
t	0.224	-1.019	0.680	0.302	0.465	-0.458	-4.538	-0.221	-0.483	-1.120
Pvalue	0.823	0.309	0.497	0.763	0.642	0.647	0.125	0.825	0.633	0.263
Marital status										
Married	24.84 ± 8.89	4.17 ± 2.38	6.94 ± 3.03	18.12 ± 5.80	18.85 ± 5.47	14.35 ± 4.27	19.35 ± 6.43	32.01 ± 9.02	18.21 ± 4.80	27.26 ± 8.80
Single	25.52 ± 10.41	4.38 ± 2.29	7.76 ± 3.19	19.10 ± 4.13	20.21 ± 4.35	15.21 ± 3.90	19.38 ± 7.65	34.55 ± 9.01	19.66 ± 3.73	26.35 ± 10.39
t	-0.389	-0.467	-1.387	-0.892	-1.299	-1.038	-0.023	-1.450	-1.576	0.524
Pvalue	0.698	0.641	0.166	0.373	0.195	0.300	0.982	0.148	0.116	0.601
Family history of breast cancer										
Yes	24.90 ± 7.84	4.00 ± 2.00	7.64 ± 3.09	18.61 ± 5.50	18.48 ± 5.55	14.00 ± 4.31	19.71 ± 6.42	28.84 ± 8.52	18.42 ± 4.62	29.35 ± 7.59
No	24.89 ± 9.14	4.20 ± 2.40	6.95 ± 3.04	18.16 ± 5.70	19.01 ± 5.38	14.47 ± 4.24	19.31 ± 6.55	32.57 ± 9.03	18.33 ± 4.75	26.96 ± 9.04
t	0.006	-0.451	1.221	0.421	-0.520	-0.584	0.323	-2.311	0.106	1.426
Pvalue	0.995	0.653	0.223	0.674	0.603	0.559	0.747	0.027	0.916	0.155

Abbreviations: BSE, breast self-examination; SD, standard deviation.
[a] Values are expressed as mean ± SD.
[b] t, Student's t test tests and significant P < 0.05.

as well as the health care system they are within in addressing obstacles to their participation in breast cancer screening.

In the present study, the scores obtained from the sub-dimensions of the HBMS were found to be as follow: whereas perceptions of sensitivity and seriousness were at a medium level, perceptions of health and the benefits of BSE, as well as perceived barriers to BSE, BSE self-efficacy, the perceived benefits of mammography, and the perceived barriers to mammography were all at a high level. It was determined that women's scores for breast cancer fear and fatalism related to BSE, CBE, and mammography were similar. It has been reported that a high level of fatalism reduces actions such as taking precautions and looking for information about diseases such as cancer (28). Although fatalism was not found to be directly related to having a mammogram, a relationship was determined between fatalism and barriers to cancer screening (29). It was found that when women's perceptions of the benefits of BSE were low, their fatalism regarding breast cancer was high (5). Although it has been reported in the literature that fatalism was a barrier to screening, in one study, Afghan women's screening rates were low, but this was not apparently related to fatalism (30). Spanish women's fear of breast cancer was related to a high degree of fatalism and health beliefs regarding having treatment rather than taking preventive measures (23). On the other hand, Latin American women had a higher degree of fatalism, to the extent that they believed that breast cancer could not be prevented no matter what a woman did (23). In the literature, the association between fear and fatalism scores were determined in breast cancer screening (13). Women's awareness of breast cancer was affected by fatalism with regard to breast cancer (24, 25). Women were more likely to perform BSE if they were less fatalistic (31). The findings of this study suggest that women's fear and fatalism did not have an effect on their participation in screening. Further investigations into the fear and fatalism of women with different cultural and religious characteristics would help in understanding women's participation in screening behaviors.

In this study, no statistically significant relationship was determined between women's age, employment, and marital status and their health beliefs and perceptions of fear and fatalism. A relationship was found between fatalism and age, and education level and behaviors regarding mammography (18). It has been reported that a low educational level increases fatalism and reduces participation in screenings, and that fatalism reduces self-efficacy and motivation in preventive health behaviors (32). Moreover, a low level of sensitivity and high degree of fatalism are correlated with age and education (4). In another study, on highly educated women, sensitivity towards breast cancer was low, self-efficacy was high, but fear and fatalism scores were lower and they were knowledgeable about breast cancer (33). It was determined that following a breast cancer diagnosis, with the exception of women from a higher income group, education, fatalism, age, a history of breast cancer, and marital status did not have an effect on whether women researched their medical condition, and women's degree of fatalism was at a low level (34). Some studies stress that fatalism increases in parallel to age (33). The present study addresses the relationship between fatalism and age. The findings obtained could suggest that the degree of fatalism experienced and the influence of religion do not change significantly between generations. There is a need for studies that provide solid evidence that fatalism and fear are barriers to participating in cancer screenings.

4.1. Conclusions

This study is important in determining women's health beliefs, breast cancer fears, and the fatalism associated with the early diagnosis of breast cancer and to provide impetus for future studies. In the present study, it was predicted that women would have higher degrees of fatalism, but there was no association between participating in screening, fear, and fatalism. The findings obtained suggest that women have higher perceptions of the benefits of BSE and mammography and a high degree of self-efficacy. Additionally, it was determined in this study that women's perceptions of barriers to BSE and mammography were at a high level. Moreover, it was found that the participation of women in breast cancer screenings was not adequate.

When it is considered that breast cancer fear and fatalism among women are a major cultural factor influencing behaviors around health, it can be suggested that this study be repeated with larger and/or more diverse sample groups. There is a need for further national and international cooperation to assess women's health beliefs, breast cancer fears, and the fatalism they experience associated with an early diagnosis of breast cancer. In the future, researchers could investigate these variables by assessing and questioning the messages given to women by the health care system, the media, and in school.

This study has several limitations. The first is the size of the sample group, which consists only of Muslim women participating in the Quran classes. The research sample could be a limitation and is a barrier to generalizing the results. A larger sample group and comparative descriptive studies would be helpful for generalizing the universe outside the target population. The second limitation is that study's results assumed that respondents answered the survey questions honestly. However, some women might have given the answers expected from them instead of their own opinions. The third limitation is that the women included in the sample of this study had similar characteristics, rather than coming from distinct groups within society. Since the study is descriptive in nature, the results

may not reveal the relationship between factors, which have an effect on breast cancer screening and the fear and fatalism experienced by the women.

Footnotes

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