

Sebahat Gözüm, PhD, RN

Ayla Tuzcu, PhD, RN

Elapsed Time Between the First Symptoms of Breast Cancer and Medical Help-Seeking Behavior and the Affecting Factors

KEY WORDS

Breast cancer

Consultation delay

Medical help-seeking behavior

Patient delay

Background: Many studies have determined that the time between women's realization of first symptoms and seeking help from a healthcare professional is more than 1 month. The situation is defined as delay in medical help-seeking behavior (MHSB). **Objective:** The purpose of this study was to determine the time elapsed between the first symptoms of breast cancer and MHSB, as well as the factors contributing to the delay. **Methods:** In this descriptive study, the data were collected from 132 patients who received a diagnosis of breast cancer and are receiving treatment in the Oncology Clinic of Akdeniz University Hospital. The questionnaire used in the study was structured in 3 parts: sociodemographic characteristics, breast cancer history/screening behaviors, and psychological factors affecting MHSB. The elapsed time between patients' first symptoms and MHSB was classified into "normal" when it was less than 1 month, "delay" when it was between 1 and 3 months, "long-term delay" when it was more than 3 months, and "very serious delay" when it was more than 6 months. **Results:** A total of 59.8% were classified as normal, 16.7% as delayed, 5.3% as a long-term delay, and 18.2% as a very serious delay after first symptoms. The delay in MHSB time was affected 18.55 times by "not caring/minding," 10.73 times by "fear," 7.13 times by "having more important problems," and 4.23 times by "realization of first symptoms" by themselves. **Conclusion:** Psychological factors were the most important determinants in delay. The MHSB time was less if those first realizing the symptoms were healthcare professionals. **Implications for Practice:** Healthcare professionals should direct women to screenings and train them to interpret symptoms correctly.

Author Affiliation: Faculty of Nursing, Akdeniz University, Antalya, Turkey.
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Correspondence: Ayla Tuzcu, PhD, RN, Faculty of Nursing, Akdeniz University, 07058 Antalya, Turkey (aylatuzcu@hotmail.com).

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Breast cancer is the most frequent cancer type in women in Turkey and the second cause of cancer-related death. According to data from the Ministry of Health, there is an increasing incidence of breast cancer in women, and data from 2011 determined the incidence at 45.1 in 100 000.¹

When it is diagnosed early, breast cancer is more likely to be treatable, which increases the chance of survival. However, women seek help because of progressive symptoms and receiving the diagnosis at a late stage of breast cancer.^{2,3} Approximately 90% of women who received a diagnosis of breast cancer realize the first symptoms on their own^{2,4,5}; in addition, recent studies^{6–8} have shown that 10% to 72% of women stated that the elapsed time between the realization of the first symptoms in her breast and application to a healthcare professional was more than 1 month. In their study, Richard et al⁹ determined that patients delaying diagnosis for 3 months or more have a lower survival rate than those delaying for a shorter period. Delay of diagnosis has adverse effects on both patient and treatment choice and cost.^{8,10}

The elapsed time between realization of the first symptoms of breast cancer and medical help-seeking behavior (MHSB) is classified as “normal” when it is less than 1 month, “delay” when it is between 1 and 3 months, “long-term delay” when it is between 3 and 6 months, and “very serious delay” when it is more than 6 months.^{8,9,11,12} A delay in application for medical treatment may be because of patient- or healthcare-related factors. Although patient delay is defined as the delay caused by the time elapsed between the first symptoms and medical application, physician delay is defined as the time elapsed between the patient’s first application for treatment and final diagnosis and treatment. In the studies conducted, patient delay in patients with breast cancer has been reported to be 9.7% in Taiwan,¹³ 35% in Italy,¹¹ 20% in Colombia,³ 72% in Malaysia,⁸ and 30% in Ireland.¹² A study conducted in Turkey revealed that the rate of women consulting a physician within 1 month after the realization of a lump in the breast was only 35.8%, and the average time elapsed before consultation was 5 months.²

In qualitative and quantitative studies, the factors delaying diagnosis and treatment in patients with breast cancer have included socioeconomic factors such as advanced age, low educational and economic levels, lack of social insurance,^{11,14} and psychological factors such as thinking that the cancer does not exist, negative attitude toward diagnosis and treatment, denial and fear,^{6,11} negative beliefs and fatalism, and incorrect information.^{6,14,15} In addition, social factors such as limitations of the partner or employer, other priorities in life, past experience of medical institutions, and sharing the breast cancer symptoms with or hiding them from another person^{6,8,14,15} contributed to delays in diagnosis and treatment.

■ Theoretical Framework

Three theories were used within theoretical and conceptual framework of this study. The first and the most important theory is “help-seeking behavior and influencing factors” de-

veloped by O’Mahony et al.¹⁵ In that study, the factors affecting help-seeking behaviors of women with self-discovered breast cancer symptoms were explained under 6 titles: knowledge and belief, psychological factors, social factors, health service system usage, health seeking habits, and sociodemographic factors. Similar concepts are found in both the Health Belief Model (HBM) and Health Promoting Model.^{16,17}

The second theoretical perspective underpinning this study is HBM. The HBM is frequently used in explaining breast cancer screening behaviors. According to the model, the most determinative factor for realizing a health behavior is the perceived barriers.¹⁶ The most important barriers for breast cancer screenings are fear, worry, shame, not knowing where to go for health problems, wrong beliefs, and the rest. These concepts are involved within factors specified in the study of O’Mahony et al.¹⁵ The last theoretical perspective that supports this study is health responsibility located within Health Promoting Model. The meaning of “personal responsibility for health” is focused on the individual who is primarily accountable for his/her health behavior. Health responsibility is an important concept for doing health behaviors in time.¹⁷

The elapsed time between the recognition of first symptoms of breast cancer by women, their partner, their family physician, or a routine screening program and their application for medical aid for diagnosis and treatment and the determination of factors causing the delay in this process are important for early diagnosis and treatment. The first step to prevent delay in diagnosis is to determine the delay caused by the woman herself and eliminate such causes. The determination of controllable reasons of delay by women will contribute to training aimed at raising breast cancer awareness of women in the target group and increasing the rate of early diagnosis and treatment. The purpose of this study was to determine the elapsed time between the first symptoms of breast cancer and MHSB by women with breast cancer and the factors causing delay. The following research questions were evaluated for this purpose.

- What is the delay rate of women, receiving treatment with diagnosis of breast cancer, in MHSB?
- Do sociodemographic characteristics of women have any effect on delay in MHSB, and if so, in what way?
- Does health and breast cancer history of women have any effect on delay in MHSB, and if so, in what way?
- Do psychosocial factors have any effect on delay in MHSB, and if so, in what way?

■ Methods

This quantitative descriptive study was conducted in oncology clinics of a university hospital in the province of Antalya in southwestern Turkey between March 2012 and August 2012. All female patients older than 18 years who received a diagnosis of breast cancer at the hospital between these dates, spoke Turkish, and agreed to participate in the study were eligible for the study (n=132). No patient declined participation or withdrew from the study. The study sample and statistics power

were calculated after the data were collected. When the delay percentage (64.2%) given in a previous study² for sample power was taken as the primary variable, the power was calculated as 100% ($\alpha=5\%$, 95% confidence interval [CI]).¹⁸ Statistical power was determined as R^2 of 0.529 for a logistic regression model with 10 variables in the 95% CI at the significance level of P value of less than .05, and the test power was determined as 0.99.¹⁹

Demographic Characteristics of Participants

The average age of 132 participants was 48.2 (SD, 10.4) years; the age range was between 23 and 73 years, with 40.2% of women older than 50 years. Most participants were married (86.4%); many had completed high school and university (33.3%); some were employed (28.8%). Almost all the participants had social insurance (97.7%), and 59.8% were living in an urban region when the diagnosis of breast cancer was received.

Instruments

A 3-part questionnaire prepared by researchers and based on the literature^{3,8,14,15} was used as the data collection tool. The first part involved time elapsed between first symptoms and MHSB and sociodemographic characteristics of participants such as age, education level, health insurance, and residence when diagnosis was received. The duration and reasons for delay of patients in MHSB were evaluated with open-ended questions and then classified. The elapsed time between the first symptoms of patients and MHSB was classified as “normal” when it was less than 1 month, “delay” when it was between 1 and 3 months, “long-term delay” when it was between 3 and 6 months, and “very serious delay” when it was more than 6 months.

The second part of the questionnaire involved health and breast cancer history such as personal, family, and friends’ breast cancer history; presence of symptoms or lumps at the time of diagnosis; and time of sharing the recognized symptom with someone else. The questions had “yes” and “no” response options and available/not available. Information regarding the breast that the lump was found in, as well as its diameter, area, and clinical stage, were obtained from the patient file. Women who indicated that they performed BSE (breast self-examination) regularly every month were classified as “regular BSE”; women who did not perform BSE regularly every month were classified as “irregular BSE”; women who never had BSE were classified as “none.” The participants were classified according to their screening behaviors (clinic breast examination [CBE] and mammography), their ages, and national breast cancer screening standards. Accordingly, although participants who were 20 years old and older were assumed to have gotten screening if they had CBE at least once, those who were 40 years old and older were assumed to have gotten screening if they had mammography at least once in the last year. If any alternative approach was used to eliminate symptoms in the breast before MHSB, they were asked to describe the approach.

In the third and final part of the questionnaire, the 9 psychosocial factors affecting MHSB were included. Avail-


able/not available or yes/no options were response options for each mood to evaluate the 8 psychosocial factors experienced by patients after the realization of first symptoms, such as not caring/minding, fear and worry. Face validity estimated for these items with 10 patients, who were not included in this study, offered feedback on these items. No need for modifications of the psychosocial factors resulted. The perception of health responsibility, the ninth psychosocial factor, was evaluated by the 9-question “subscale of health responsibility” of the Healthy Lifestyle Behaviors Scale, which was developed in 1996²⁰ and adapted to Turkish in 2008.²¹ Statements in the scale examine individuals’ responsibility for their own health and application to health and their will to approach the healthcare professionals. Although this scale is not specific to breast cancer screening, it can reflect breast cancer health responsibility with rate of participation to statements such as “I tell the doctor or health officer about the extraordinary symptoms and changes in my body,” “I consult medical personnel for my health problems,” “I check my body for physical changes, dangerous findings at least once a month.” As a 4-point Likert-type scale, scores range between 9 and 36. High scores indicated that the individual’s health responsibility is at high level. The Cronbach’s α coefficient of the Turkish version of the Health Responsibility Scale is .77.²¹ In this study, the internal consistency of the scale was .81.

Pilot application was performed with 10 patients to ascertain the comprehensibility of questions in all data collection tools excluding for the Health Responsibility Scale, and incoherent and missing questions were rearranged. Only a few questions about breast cancer screening behavior were revised. The screening time was revised according to the national screening program. The study data were collected by 9 clinic nurses who had been trained by the study team leaders using face-to-face conversation technique at the study settings.

Data Analysis

The data were analyzed using the Statistical Package for Social Science 17.0 (SPSS Inc, Chicago, Illinois) software program. After determining the delay time/level (dependent variable), the independent variables (sociodemographic characteristics, health history, health responsibility, and psychological factors) that could affect the MHSB were examined by using χ^2 and t tests.

In these assessments, the factors that were determined to be influential were included in the logistic regression model. A sufficiency criterion based on the Hosmer-Lemeshow test was used to statistically determine the variables that would be included in the logistic regression. All variables indicated to be significant in the χ^2 test were first tested in a single model, but this single model did not achieve sufficiency in the Hosmer-Lemeshow test. Each of the variables included in the model except for the psychological factors was deleted one by one, and the most suitable model was determined after the renewed analysis. Accordingly, 2 models were used: “person who first realized the symptom,” which was among the health history factors, was tested in 1 model, and educational level and psychological factors were tested in the other. The level of statistical significance was set at P value of less than .05, and 95% CI was used.

 **Table 1 • Time Elapsed Between First Symptoms and MHSB (n=132)**

MHSB Time	n	%
Normal (<1 mo)	79	59.8
Delay (1-3 mo)	22	16.7
Long-term delay (>3-6 mo)	7	5.3
Very serious delay (>6 mo)	24	18.2

Abbreviation: MHSB, medical help-seeking behavior.

Ethics of the Study

Approval from the Ethics Committee of Noninterventional Clinical Trials of Akdeniz University Medical Faculty, written permission from units where the study was conducted, and informed consent from patients were received in the study.


Results

In examining the time elapsed between the participants' first symptoms and MHSB, 59.8% sought medical aid within the first month (normal), 16.7% were delayed, 5.3% had a long-term delay, and 18.2% had a very serious delay (Table 1). Only educa-

tional level among sociodemographic characteristics of participants was an important factor because those with higher education levels were not delayed in MHSB ($P<.05$) (Table 2).

Of the health history factors (personal breast cancer history, other cancer type history, breast cancer history in family, other cancer type history in family, cancer history in friends, existence of symptoms when diagnosis was received, existence of a lump when diagnosis was received, diameter of lump, stage, area of lump, person who first realized the symptom, sharing the symptom with another person, history of BSE, and breast cancer screenings before diagnosis), none affected the time of MHSB ($P>.05$). It was found that 14.4% of women used alternative methods to eliminate symptoms before MHSB (consuming herbal tea such as broccoli juice, mustard, curcuma, and ginger tea; having special diets such as stinging nettle and mallow salad; and doing external practices such as massaging the lump in the bathroom and putting apple puree and cheesecloth with vinegar on the breast); however, those interventions did not affect time of MHSB. When those patients who were realizing symptoms were health personnel, the rate of delay in MHSB decreased ($P<.05$) (Table 3).

The psychosocial factors that delayed the time of MHSB were not knowing where to go, existence of more important problems, not caring/minding, fear, worry, shame, refusing to

 **Table 2 • Distribution of Sociodemographic Factors Regarding MHSB Time**

	Normal		Delay ^a		Statistics	
	n	% ^b	n	% ^b	χ^2 Test	P
Age, y						
≤39	18	62.1	11	37.9	1.458	.482
40-49	22	52.4	20	47.6		
≥50	39	64.2	22	35.8		
Education						
Elementary and lower (≤5 y)	47	53.4	41	46.6	4.556	.039
High school and higher (>5 y)	32	72.7	12	27.3		
Marital status						
Married	71	62.3	43	37.7	2.058	.151
Other (single, widowed, divorced)	8	44.4	10	55.6		
Menopausal status						
Yes	74	60.2	49	39.8		1.00 ^c
No	5	55.6	4	44.4		
Work status						
Employed	25	65.8	13	34.2	0.784	.376
Unemployed	54	56.3	40	37.7		
Economic status						
Income<expenditure	19	50.0	19	50.0	2.187	.335
Income=expenditure	52	64.2	29	35.8		
Income>expenditure	8	61.5	5	38.5		
Health insurance						
Yes	76	58.9	53	41.1		.274 ^c
No	3	100.0	0	0.0		
Residence when diagnosis was received						
Urban	48	60.8	31	39.2	0.068	.857
Rural	31	58.5	22	41.5		

Abbreviation: MHSB, medical help-seeking behavior.

^aDelay, long-term delay, and very serious delay groups are integrated as delay.

^bThe data were explained as row percentage.

^cFisher's exact test was carried out.

**Table 3 • Distribution of Health and Breast Cancer History Factors related to MHSB Time**

	Normal		Delay ^a		Statistics	
	n	% ^b	n	% ^b	χ^2 Test	P
Personal breast cancer history						1.000 ^c
Available	4	57.1	3	42.9		
Not available	75	60.0	50	40.0		
Other cancer type history						
Available	15	51.7	14	48.3	1.021	.312
Not available	64	62.1	39	37.9		
Breast cancer history in family						
Available	21	60.0	14	40.0	0.000	.983
Not available	58	59.8	39	40.2		
Other cancer-type history in family						
Available	36	62.1	22	37.9	0.212	.645
Not available	43	58.1	31	41.9		
Cancer history in friends						
Available	29	65.9	15	34.1	1.009	.315
Not available	50	56.8	38	43.2		
Existence of symptoms when diagnosis was received						
Available	66	56.9	50	43.1		.052 ^c
Not available	13	81.3	3	18.7		
Existence of a lump when diagnosis was received						
Available	58	57.4	43	42.6	1.050	.305
Not available	21	67.7	10	32.3		
Lump size, cm						
≤2	31	60.8	20	39.2	0.003	.965
>2	48	59.3	33	40.7		
Clinical stage						
I-II	53	61.6	33	38.4	0.325	.349
III-IV	26	56.5	20	43.5		
Area of lump						
Upper outer	39	62.9	23	37.1	4.072	.539
Upper inner	12	66.7	6	33.3		
Lower inner	6	54.5	5	45.5		
Lower outer	11	64.7	6	35.3		
Nipple and areola	9	52.9	8	47.1		
Axillary tail	2	28.6	5	71.4		
The person who first realized the symptom						
Herself	63	55.8	50	44.2		.023 ^c
Healthcare professional	16	84.2	3	15.8		
Sharing the symptom with another person						
Yes	60	58.3	43	41.7	0.497	.481
No	19	65.5	10	34.5		
History of BSE						
Regular (every month)	27	75.0	9	25.0	4.817	.090
Irregular	24	55.8	19	44.2		
None	28	52.8	25	47.2		
Breast cancer screenings before diagnosis						
Yes	29	67.4	14	32.6	1.530	.216
No	50	56.2	39	43.8		
Alternative approach						
Yes	12	63.2	7	36.8	0.101	.750
No	67	59.3	46	40.7		

Abbreviations: MHSB, medical help-seeking behavior; BSE, breast self-examination.

^aDelay, long-term delay and very serious delay groups are integrated as delay.^bThe data were explained as row percentage.^cFisher's exact test was carried out.

believe, fatalism ($P<.05$, Table 4), and decreased health responsibility score ($t=2.58$, $P=.01$) (Table 4).

Examining the factors affecting the MHSB time of patients by using the logistic regression analysis indicated that only realization of first symptoms by themselves, having more important problems (such as caring about children and husband, sick family members, and moving), not caring/minding, and fear affected MHSB. The delay in MHSB time was affected 18.55 times by not caring/minding, 10.73 times by fear, 7.13 times by having more important problems, and 4.23 times by realization of first symptoms by themselves (Table 5).

■ Discussion

In our study, almost all of the participants (85.6%) realized the problem in their breast on their own; however, approximately 2 of 5 participants were delayed in MHSB after the first symptoms, and 1 of 5 participants showed a significant delay. This study found that the time elapsed between the patients' realization of first symptoms of breast cancer and seeking medical help is an important health problem in our sample. In another study conducted in Turkey,² 88.9% of women realized the problem in their breast on their own, and 3 of 5 were

delayed in seeking medical help within the first month. In a previous study of women with breast cancer from 12 countries, patient delay was determined as 4.71(SD, 0.07) weeks in total and 4.84 (SD, 0.18) weeks in Turkey.²² This condition is explained by women's reduced awareness about health and a lack of medical services regarding breast cancer and screenings in developing countries.^{22,23} Comparing our results with those of the previous study conducted in Turkey,² the rate of women with delayed MHSB remains high in Turkey in spite of the increased rate of women applying for MHSB at an earlier time. This increasing rate in MHSB may be attributed to the establishment of Cancer Early Diagnosis and Screening Centers in Turkey in recent years.

In this study, factors affecting the time of MHSB were examined under titles of sociodemographic, health and breast cancer history, and psychosocial factors. The sociodemographic characteristics of the patient such as their age, marital status, health insurance, economic situation, and whether they lived in a rural or urban area did not affect the time of MHSB. Although the rate of delay was higher in women with lower educational levels (Table 2), educational level was not a significant variable in the regression model (Table 5). Different results have been obtained from previous studies investigating effects of sociodemographic factors on MHSB.^{3,11,22-24} In this study, sociodemographic factors did not affect time of MHSB; this

❁ Table 4 • Distribution of Psychosocial Factors Related to MHSB Time						
	Normal		Delay ^a		Statistics	
	n	% ^b	n	% ^b	χ ² Test	P
Knowing where to go						
I did not know	3	27.3	8	72.7		
I knew	76	62.8	45	37.2		.027 ^c
More important problems						
Yes	4	19.0	17	81.0		.000 ^c
No	75	67.6	36	32.4		
Regard						
Not caring/minding	7	17.9	32	82.1	40.441	.000
I regarded	72	77.4	21	22.6		
Fear						
I was afraid	5	29.4	12	70.6	7.525	.006
I was not afraid	74	64.3	41	35.7		
Worry						
I worried	3	27.3	8	72.7		.027 ^c
I did not worry	76	62.8	45	37.2		
Shame						
I felt shame	2	25.0	6	75.0		.060 ^c
I did not feel shame	77	62.1	47	37.9		
Believe						
I did not want to	7	36.8	12	63.2	4.889	.027
I wanted to	72	63.7	41	36.3		
Fatalism						
I am fatalist	4	26.7	11	73.3		.010
I am not fatalist	75	64.1	42	35.9		
Health responsibility, mean (SD)	24.06 (4.97)		21.77 (5.03)		2.581 ^d	.011

Abbreviation: MHSB, medical help-seeking behavior.
^aDelay, long-term delay and very serious delay groups are integrated as delay.
^bThe data were explained as row percentage.
^cFisher's exact test was carried out.
^dIndependent *t* test.

 **Table 5 • Logistic Regression: Prediction of Likelihood of Delay to MHSB**

Variables	R ²	Odds Ratio	95% Confidence Interval	P
The person first realizing the symptom is herself	0.061	4.23	1.17–15.34	.028
Health responsibility	0.529	0.91	0.82–1.01	.083
Education level		0.78	0.27–2.28	.654
≤5y				
>5y				
Not knowing where to go		2.23	0.39–12.69	.367
Existence of more important problems		7.13	1.75–29.06	.006
Not caring/minding		18.55	5.39–63.80	.000
Fear		10.73	1.29–89.33	.028
Worry		0.46	0.02–9.98	.620
Shame		0.37	0.02–6.25	.491
Not believe		0.88	0.20–3.98	.872
Fatalism		0.76	0.12–4.62	.761

could be explained by the effectiveness of the other factors such as social and psychological factors and health-seeking habits.

In contrast to previous reports,^{7,11–24} the diameter and location of the lump and the stage of the disease did not affect the time of MHSB. Three studies^{7,11–23} documented a significant negative relation between the time of MHSB and the diameter of the lump, and in another 3 studies,^{3,23,24} MHSB time of patients who received early diagnosis was lower stage. Poorly differentiated breast cancers were less frequently encountered in cases applying to a physician within 1 month at the latest from the realization of the first symptom.²⁴

The time of MHSB decreased when the first person recognizing the symptoms was health personnel (family doctor, Cancer Early Diagnosis and Screening Center, gynecologist, or general surgeon) (Tables 3 and 5). This can be explained by the lack of health knowledge of women and the experience of healthcare professionals. This result indicates the importance of women to have regular examinations and screenings by healthcare professionals and the importance of training women to interpret their symptoms correctly.

According to Turkish national breast cancer screening program standards, women aged 40 years and older are advised to have a mammography once a year; women between the ages of 20 and 30 years are advised to have mammography every 3 years, and women older than 40 years are advised to have CBE every year regularly and every woman after the age of 20 years is advised to complete BSE regularly to create breast health awareness.¹ In this study, BSE and screening (CBE and mammography) did not affect the time of MHSB, findings similarly noted in 2 studies.^{6,7} In the other 3 studies conducted differently,^{2,22,23} the time of MHSB of those who had practiced BSE was briefer. The fact that breast cancer screening behaviors in the study were not influential on MHSB could be associated with the standard of assessment of CBE and mammography together.

In our study, alternative methods used to eliminate symptoms before approaching health professionals did not affect time of MHSB. These findings are similar to 2 studies conducted on Libyan²¹ and Malaysian women.⁸

The most significant finding of this study was that the time to MHSB was affected by psychosocial factors. When women

did not care about breast cancer symptoms (18.55 times), when they were afraid (10.73 times), when they cared more about the other problems in their lives (7.13 times), or when they recognized the symptoms for the first time by themselves (4.23 times), seeking medical help was more delayed. O'Mahony and Hegarty⁶ indicated that thinking that the lumps or pain symptoms recognized for the first time were harmless prevented receiving help from healthcare professionals. Similarly, others^{8,23} have reported that women not taking symptoms seriously is a reason for delay; this may be related to low educational levels. Women in another study who did not interpret symptoms being related to cancer delayed the time of MHSB 1.7 times compared with those interpreting symptoms as cancer,⁸ and 27% who did not interpret symptoms as cancer-related delayed MHSB.²³ Our study revealed that most women who had a primary education of 5 years or less had delayed time to MHSB; however, this was not a statistically significant variable in the regression analysis. This may mean that an inability to interpret breast cancer symptoms correctly and not knowing how to seek medical help may be particularly important in our study group.

In this study, fear was the second most important factor preventing delay in MHSB. Fear of the disease may be both barrier and facilitator to health-seeking behavior.²⁵ Although fear may be a barrier to screening for some women who think that they cannot cope with the results they could face when they are assessed by a doctor, fear may be a facilitator for other women in perceiving the seriousness of the disease. In a qualitative study,¹⁵ fear contributed to delaying the time of MHSB. In another qualitative study,²⁶ the fear of receiving a diagnosis of cancer or of losing a breast was barriers to screening behaviors; however, the fear of having a difficult treatment when the disease progresses is the facilitator. In the 2 studies conducted,^{8,21} it was reported that the time of MHSB was delayed because of fear. Seçginli,²⁷ it was found out reported that fear did not affect mammography behavior. There may be a curvilinear association between fear and MHSB, and the fear may accelerate or delay the medical-help seeking. The actual mechanisms that determine when 1 patient with fear acts a certain way have still not been elucidated. Importantly, different kinds of fears have been

measured using different instruments, which further complicates comparisons across studies.²⁸

The third most important factor affecting the delay in MHSB was the presence of other problems in women's lives. Women delayed MHSB when they cared more about other problems in their lives such as taking care of their children and husbands or moving houses. Prioritizing other problems could be associated with the fact that women did not realize and therefore did not care for the symptoms in our sample.

Shame, fatalism, and health responsibility did not affect the MHSB time (Table 5). A total of 4.5% of Libyan women with breast cancer delayed seeking medical aid because of shame.²³ The fact that shame and fatalism did not influence MHSB in this study leads us to think that our participants might have been overcome cultural barriers such as shame and fatalism.

Although women's health responsibility on MHSB time was effective in nonparametric tests, it was not found to be effective in the regression model (Tables 4 and 5). This result could be explained by the fact that the health responsibility level of women included in the study was above average.

Limitations

The most significant limitation of this study is the dichotomous-type response options to questions used in evaluating psychosocial factors; only face validity was achieved before the study. Even still, the results of this study could constitute a basis for future research. Another limitation of this study is the thought that the frequency observed in χ^2 analyses was lower than 5 in some cells. However, in such cases, statistical power of each test was calculated by using the G*Power program and found to be more than 90%.

Implications for Practice and Research

Healthcare professionals should know that psychosocial factors are important in delayed MHSB even though women realize the first symptom themselves. In community-based information studies, interventions should be planned for reducing these factors. Women should be warned about potential cancer symptoms. Furthermore, healthcare professionals should encourage all women in the risk group to go to breast cancer screenings.

Conclusion

Even though almost all women with breast cancer realized the first symptom themselves, approximately half of them delayed seeking medical help. Psychosocial factors were the most influential determinants in the delay in MHSB time, and MHSB time was earlier when the symptoms were first realized by a healthcare professional.

According to these results, during the trainings, healthcare personnel should recommend women to pay attention to symptoms in the breasts and not to postpone their own health screenings because of other problems. Moreover, healthcare personnel should take into consideration that breast cancer fear is an important factor in MHSB.

Because psychosocial factors are an influential factor during MHSB, these factors need to be periodically assessed using validated, reliable instruments in the future studies.

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