Original Article

The Effect of Breast Cancer Fatalism and Barrier Perceptions of Female Seasonal Agricultural Workers on Their Breast Cancer Early Detection Behaviors

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Abstract

Background: Determining breast cancer fatalism and perceptions of barriers of SAW women who have difficulties in accessing health services is important for the development of preventive health behaviors.
Objectives: The aim of this study was to examine the effect of breast cancer fatalism and barrier perceptions of female seasonal agricultural workers on their breast cancer early detection behaviors.
Methodology: Data of this descriptive study were collected in A Family Health Center between October 2020 and June 2021. The sample consisted of 352 female seasonal agricultural workers. A personal information form, the Breast Cancer Fatalism Scale, and Breast Self-Examination and Mammography subdimensions of Champion's Health Belief Model for Breast Cancer Screening were used to collect data. Descriptive statistics, Mann Whitney U test, chi-square test, and independent groups t-test were used for data analysis.
Results: In the study, no significant difference was found between women's breast self-examination and clinical breast examination statuses and their mean scores on the Breast Cancer Fatalism Scale and "breast self-examination" and "barriers to mammography" subdimensions of the health belief model ($p>0.05$). A significant difference was found between the mammography status of women and their mean score on the "barriers to mammography" subdimension of the health belief model ($p<0.05$).
Conclusions: As a result, it was determined that women's breast cancer fatalism, breast self-examination, and mammography barrier levels were not at the desired level. For this reason, it is recommended to plan training programs and studies to reduce breast cancer fatalism and barrier perceptions of female seasonal agricultural workers.

Keywords: Breast Cancer, Early Detection Behaviors, Fatalism, Barrier Perception

Background

Many factors affect the attitudes and behaviors of women regarding the early diagnosis of breast cancer. These factors include an individual's cultural beliefs, perception of health/disease, family and environmental support, current knowledge of the disease, and risk perception of breast cancer. Furthermore, breast cancer fatalism and perception of barriers have a very important place in the early diagnosis of cancer in women (Ersin et al., 2018; Langhorne et al., 2007). Due to fatalism, women think that breast cancer is their destiny, that they cannot be cured even if they are treated, and that this is given by God, and they consider breast cancer as a destiny. This causes delays in early diagnosis and complicates compliance with the treatment plan (Liang et al., 2008). Another factor that prevents early diagnosis behavior for breast cancer is the perception of barriers. Perception of barriers is a factor that prevents the development of a protective behavior related to health and makes it difficult to implement this behavior (Clemen-Stone et al., 1995). The working and living conditions of seasonal agricultural worker (SAW) women in our country make them an important risk group in accessing health services. Determining breast cancer fatalism and

perceptions of barriers of SAW women who have difficulties in accessing health services is important for the development of preventive health behaviors. Determining breast cancer fatalism and perception of barriers of SAW women and identifying the effects of breast cancer fatalism and perception of barriers on early diagnosis behaviors will guide the planning of nursing services to be given to this group. For this reason, this study aimed to determine the effect of breast cancer fatalism and perception of barriers of SAW women on breast cancer early diagnosis behaviors.

Methods

Research type: The research has a descriptive design.

Research place and time: The data of the research were collected in a family health center region between October 2020 and June 2021.

Research population and sample: The population of the research consisted of 4264 women aged over 20 living in a family health center region and the sample consisted of 352 women. The sample size was determined using the formula for the known population size. Simple random sampling method was used in the selection of SAW.

Inclusion criteria: The inclusion criteria of the research were being a SAW, being aged over 20, not being diagnosed with breast cancer, not having any breast mass, and being able to speak and understand Turkish at a communicative level.

Data collection tools of research: In the study, an individual introduction form, the breast cancer fatalism scale, and BSE and mammography barrier subscales related to breast cancer screening in Champion's Health Belief Model.

Individual introduction form: The form includes 18 questions questioning the demographic characteristics and breast cancer early diagnosis behaviors of women.

Breast Cancer Fatalism Scale: The scale was developed by Powe and consists of 15 questions (Powe, 1995). It was revised to an 11 item-version by Mayo, Ureda, and Parker (Mayo et al., 2001). Its validity and reliability were established by Ersin et al. in 2014 in our country (Ersin et al., 2018). The scale consists of 11 items. The answer "Yes" is evaluated as 1 point and the answer "No" as 0 points. The score obtainable from the scale varies between 0-11. An increase in the score on the scale indicates an increase in fatalism. It takes 3-5 minutes to fill out the scale. The Cronbach alpha value of the scale is 0.87 (Ersin et al., 2018). The Cronbach alpha value was found to be 0.87 in this study.

Champion's Health Belief Model Scale for Breast Cancer Screening (CHBMS): The scale was developed by Champion (1984) based on the health belief model to measure beliefs about early diagnosis of breast cancer. In our country, the scale was adapted to Turkish with three different studies (Gozum et al., 2004). In this study, the validity and reliability study conducted by Gozum and Aydin was used (Gozum & Aydin, 2004). CHBMS consists of 8 subscales and 52 items. Each subscale can be used separately. In this study, a total of 2 subscales (19 items) of the scale were used: BSE "barriers" related to breast cancer and mammography-related "barriers". The items are scored on a Likert-type scale ranging from 1 to 5. In the scale, the answer "strongly disagree" is evaluated as 1 point; "disagree" as 2 points; "indecisive as" 3 points; "agree" as 4 points; "strongly agree" as 5 points. A higher score indicates a higher perception of barriers. The Cronbach alpha value is 0.73 for the BSE barrier subscale and 0.81 for the mammography barrier subscale (Gozum & Aydin, 2004; Gozum et al., 2004). In this study, the Cronbach alpha value was found to be 0.78 for the BSE barrier subscale and 0.85 for the mammography barrier subscale.

Data Evaluation: The data of the study were evaluated using the Statistical Package for Social Sciences 20.0 package program. Descriptive statistics, Mann Whitney U test, independent samples t-test, and chi-square test were used for the analysis.

Research Ethics: Permission was obtained from A University Clinical Research Ethics Committee (numbered 74059997-050.04.04, dated 10/12/2020), A Provincial Directorate of Health, and the participants.

Results

The mean age of the women was 35.12 (20-64). Of the SAW women, 93.8% were married; 40.3% were illiterate; 67.6% had no social security. 47.2% of SAW women stated that they had a low income; 55.4% perceived their health as moderate (Table 1).

20.2% of SAW women stated that they had performed BSE. 82.2% of women who had not performed BSE stated that they did not know; 3.8% had not thought they would have breast cancer; 4.3% stated that they did not have time; 2.5% stated that they had not needed BSE; 2.5% did not have breast cancer patients in their family

or environment. Of the women, 28.6% had CBE and 18.5% had undergone mammography. Of the women who had not undergone mammography, 52.6% did not think that they would have breast cancer; 7.2% stated that they had not had time; 3.1% thought that mammography would harm their health; 3.1% stated that they had a male doctor. 33.8% of SAW women stated that they had received information about breast cancer early diagnosis behaviors; 58% had received this information from television, computer, or the radio; 33.6%had received information from health personnel; 8.4% had received information from books, brochures, or magazines. In addition, 97.4% of the women reported that they wanted to receive information about early diagnosis behaviors (Table 2).

The mean score of the women on the breast cancer fatalism scale was 6.00 ± 3.51. The mean score on the health belief model scale BSE barrier subscale was 16.98 ± 6.28 and the mean mammography barrier subscale score was 31.85 ± 9.65 (Table 3).

There was a significant difference in the BSE status of SAW women according to their education levels (X^2=10.163, p= 0.038) (Table 4). There was no significant difference between the BSE status of SAW women and their mean scores on the breast cancer fatalism scale (t=-1.237 p=0.218), health belief model BSE barrier subscale (t=.-110 p=0.913), and mammography barrier subscale (t=-.028 p=0.977). A significant difference was found between the women's CBE status and their scores on the CHBMS BSE barrier subscale (t=2.777 p=0.006) and the CHBMS mammography barrier subscale (U=837.50 p=.027) (Table 5).

Table 1. Distribution of descriptive characteristics of seasonal agricultural worker women (n=352)

Descriptive Characteristics	n	%
Marital Status		
Married	330	93.8
Singe	22	6.3
Education Status		
Illiterate	142	40.3
Literate	40	11.4
Primary school	88	25.0
Secondary school	51	14.5
High school and over	28	8.0
Social Security Status		
Yes	114	32.4
No	238	67.6
Income Status		
Low	166	47.2
Moderate	167	47.4
High	19	5.4
Perception of Health		
Bad	46	13.1
Moderate	195	55.4
Good	111	31.5
Total	352	100.0

Table 2. Distribution of some breast cancer-related characteristics of seasonal agricultural worker women

Characteristics	n	%
BSE Status		
Yes	71	20.2
No	281	79.8
Frequency of BSE		
Never	281	79.8
Sometimes	62	17.6
Regularly, every month	9	2.6
Reason for not doing BSE (n=281)		
I do not know	231	82.2
I do not have time	12	4.3
I am afraid to find symptoms in myself	3	1.1
I do not want to deal with it	7	2.5
I do not think I will have breast cancer	11	3.8
I do not need	7	2.5
There is no one in my family or around me who has breast cancer	7	2.5
I have more important problems	3	1.1
CBE Status (n=119)		
Yes	34	28.6
No	85	71.4
Mammography Screening (119)		
Yes	22	18.5
No	97	81.5
Frequency of Mammography Screening		
Never	97	81.5
Sometimes	22	18.5
Reason for not Undergoing Mammography (n=97)		
I think mammography is harming my health	3	3.1
Male doctor	3	3.1
I do not think I will have breast cancer	51	52.6
I have no time	7	7.2
Other	33	34.0

Obtaining Information on Breast Cancer Early Diagnosis Behaviors		
Yes	119	33.8
No	233	66.2
Source of Information (n= 119)		
Health personnel	40	33.6
Television, computer, or radio	69	58.0
Books, brochures, or magazines	10	8.4
Desire to Obtain Information on Breast Cancer Early Diagnosis Behaviors		
Yes	343	97.4
No	9	2.6

Table 3. Mean scores of seasonal agricultural worker women on the breast cancer fatalism scale, the health belief model scale breast self-examination barrier and mammography barrier subscales

Scales	$\bar{X}$± SD	Min-Max Scores
Breast Cancer Fatalism Scale	6.00±3.51	0.00-11.00
Health Belief Model Scale BSE Barrier Subscale	16.98±6.28	8.00-33.00
Health Belief Model Scale Mammography Barrier Subscale*	31.85±9.65	11.00-55.00

*Women over 40 are included

Table 4. Distribution of breast cancer early diagnosis behaviors of seasonal agricultural worker women according to their descriptive characteristics

Descriptive Characteristics	Breast Cancer Early Diagnosis Behaviors					
	Clinical Breast Examination (CBE)*** (n=119)		Mammography Screening*** (n=119)		Breast Self-Examination (BSE) (n=352)	
	Yes n/%	No n/%	Yes n/%	No n/%	Yes n/%	No n/%
Education Status						
Illiterate	22(64.7)	56(65.9)	15(60.0)	63(67.0)	21(29.6)	121(43.1)
Literate	5(14.7)	13(15.3)	5(20.0)	13(13.8)	5(7.0)	35(12.5)
Primary school	4(11.8)	11(12.9)	1(4.0)	14(14.9)	22(14.9)	66(23.5)
Secondary school	1(2.9)	2(2.4)	2(8.0)	1(1.1)	12(16.9)	39(13.9)
High school and over	2(5.9)	3(3.5)	2(8.0)	3(3.2)	11(15.5)	20(7.1)

Statistical Value	*X^2=0.391, p=0.893		*X^2=360, p=0.118		X^2=10.163, p= 0.038	
Marital Status						
Married	33(97.1)	82(96.5)	25(100.0)	90(95.7)	68(95.8)	262(93.2)
Single	1(2.9)	3(3.5)	0(0.0)	4(4.3)	3(4.2)	19(6.8)
Statistical Value	** p= 1.000		----------		**p= 0.587	
Social Security Status						
Yes	13(38.2)	27(31.8)	12(48.00)	28(29.8)	29(40.8)	85(30.2)
No	21(61.8)	58(68.2)	13(52.0)	66(70.2)	42(59.2)	196(69.8)
Statistical Value	*X^2= 0.456, p= 0.500		*X^2=2.935, p= 0.087		X^2= 2.906, p= 0.088	
Income Status						
Low	17(50.0)	44(51.8)	10(40.0)	51(54.3)	27(38.0)	139(49.4)
Moderate	16(47.1)	38(44.7)	14(56.0)	40(42.6)	39(54.9)	128(45.6)
High	1(2.9)	3(3.5)	1(4.0)	1(3.1)	5 (7.1)	14(5.0)
Statistical Value	*X^2= 0.069, p= 0.966		X^2=1.608, p= 0.447		X^2= 3.069, p= 0.216	
Perception of Health						
Bad	12(35.3)	15(17.6)	10(40.0)	17(18.1)	11(15.5)	35(12.5)
Moderate	21(61.8)	59(69.5)	14(56.0)	66(70.2)	41(57.7)	154(54.8)
Good	1(2.9)	11(12.9)	1(4.0)	11(11.7)	19(26.8)	92(32.7)
Statistical Value	*X^2=5.953, p=0.051		*X^2=5.935, p=0.051		X^2= 1.131, p= 0.568	

*Pearson chi square **Fisher Exact Test ***Women over 40 are included

Table 5. Comparison of women's breast cancer early diagnosis behaviors and their mean scores on the breast cancer fatalism scale and health belief model scale breast self-examination and mammography barriers subscales

Breast Cancer Early Diagnosis Behaviors	**Scales**		
	Breast Cancer Fatalism Scale	**Health Belief Model Scale BSE Barrier Subscale**	**Health Belief Model Scale Mammography Barrier Subscale***
	$\bar{X}$±SD	**$\bar{X}$±SD**	**$\bar{X}$±SD**
Breast Self-Examination Status			
Yes	5.54±3.67	16.91±6.18	31.80±10.30
No	6.12±3.46	17.00±6.32	31.86±9.52
Statistical Value	t= -1.235 p=0.218	t= .-110 p=0.913	t= -.028 p=0.977
Clinical Breast Examination Status*			
Yes	7.76±2.85	21.38±4.53	34.38±9.98
No	7.28±3.29	18.11±6.21	30.83±9.38
Statistical Value	t= 0.742	t= 2.777	t= 1.829

	p=0.460	p=0.006	p=.070
Mammography Screening Status*			
Yes	8.00±2.87	21.28±4.73	32.52±10.31
No	7.26±3.24	18.45±6.12	31.67±9.51
Statistical Value	U=1023.50 p=.356	U=1141.50 p=.827	U=837.50 p=.027

* Women over 40 are included

Discussion

In the study, it was determined that most of the women (79.8%) had not performed BSE and that only a few (2.6%) had performed BSE on a monthly basis. In the study of Avci (Avci, 2020), 36.2% of women stated that they had not performed BSE and 29.4% stated that they had performed BSE once a month. Likewise, in another study, it was found that more than half of the women (64.2%) had not performed BSE (Cidem & Ersin, 2019). In the study conducted by Esen et al., 32.3% of the participants stated that they had not performed BSE (Esen et al., 2000). In a study, it was found that 71.3% of women had not performed BSE (Takakuwa, 2000). In this study, it was an expected result that women who had not performed BSE constituted the majority. This can be explained by the fact that SAW women had not performed BSE and very few of them had performed BSE once a month because they had not had enough information about breast cancer. Because 82.2% of SAW women stated that they had not known how to perform BSE. Besides, the reason for the high rate of SAW women who had not known how to perform BSE might be that they had had difficulty in accessing the information on health protection and improvement due to the difficult working conditions. Furthermore, not being able to have enough time for BSE, not thinking that they would have cancer, not needing it, and not having a family history of breast cancer might have affected the rate of BSE.

In the study, the majority of SAW women (71.4%) stated that they had not had CBE. This finding is also supported by the literature. In studies, the rate of CBE varies between 47% and 93.8% (Ersin & Kilic Dedeoglu, 2020; Sahin & Ozdemir, 2015; Sohbet &Karasu, 2017; Sen & Basar, 2012; Basak, 2016). The high rate of SAW women who had not had CBE in this study can be explained by the lack of sufficient information about breast cancer.

Moreover, in this study, more than half of SAW women (81.5%) stated that they had not undergone mammography. Previous studies support this result (Koc et al., 2014; Koc & Saglam, 2009; Parsa et al., 2008). Contrary to this study, Ozoglu and Sucu Dag found in their study that more than half of the women (57.9%) underwent mammography (Ozoglu & Sucu Dag, 2019). The reason for the low rate of mammography in this study might be SAW women's lack of knowledge about breast cancer early diagnosis behaviors. In addition, SAW women may have problems accessing screening programs. Reasons such as not thinking they would have breast cancer (52.6%), not having time to undergo mammography (7.2%), having a male doctor (3.1%), and thinking that mammography would harm their health (3.1%). might have also influenced the mammography screening behavior.

In the study, it was determined that more than half of SAW women did not have knowledge about breast cancer early diagnosis behaviors (66.2%). 42.4% of the women in the study conducted by Cidem and Ersin (Cidem & Ersin, 2019) , 26.6% of SAW women in the study of Sohbet and Karasu (Sohbet & Karasu, 2016), and 25% of the women in the study of Sen and Basar [16] stated that they did not have information on breast cancer. Studies also reported that more than half of women had knowledge about breast cancer (Guzel & Bayraktar, 2019; Polat & Ersin, 2017). The fact that more than half of SAW women in this study did not have knowledge about breast cancer early diagnosis behaviors may be an indication that they do not receive adequate health services for breast cancer. In addition, the fact that 33.6% of the women had received information about early diagnosis behaviors from health personnel can explain this situation. In this study, more than half of the women (58%) stated that they had received information from television, computer, or radio. In the study conducted by Cidem and Ersin (Cidem

& ersin, 2019), 44.5% of the women stated that they had received information from health personnel. In a study conducted by Ozaydın et al. (Ozaydın et al., 2009), on the other hand, the women stated that they received information about breast cancer early diagnosis behaviors from television (60.3%), newspapers (46.5%), and relatives/friends (32.2%). In addition, the high rate of obtaining information from television, computer, or radio is also important in terms of showing the difficulties the women experience in accessing health services due to both working conditions and the pandemic. It was expected that individuals had received most of the health-related information from television, especially during the pandemic process. Moreover, the fact that almost all women (97.4%) had wanted to receive information about breast cancer early diagnosis behaviors indicates that they are sensitive about this issue and reveals the necessity of training suitable for working conditions.

It was stated in the literature that fatalism affects screening behaviors negatively (Akhigbe & Akhigbe, 2012; Farmer, 2007; Liang et al., 2008; Ramirez, 2014). It was reported that individuals with high fatalism have insufficient precautionary and information-seeking behaviors. Studies also addressed that a higher belief in fatalism indicates a lower tendency for breast cancer screening (Drew & Schoenberg, 2011; Lannin et al., 1998).

In the study, it was seen that there was a significant difference between education level and BSE behavior. In the study conducted by Tatar and Ersin (Tatar & Ersin, 2021), there was no significant difference between education level and status of performing BSE, having CBE, and undergoing mammography. Sohbet and Karasu reported that there was no significant difference between education level and status of performing BSE (Sohbet & Karasu, 2017). In this study, it was expected that the education level affects the status of performing BSE. In addition, the fact that descriptive characteristics did not have an effect on CBE, BSE, and mammography behaviors can be explained by the fact that SAW women have different priorities due to the difficulties in their working conditions.

Conclusion and Recommendations: It was determined that more than half of SAW women did not have information about breast cancer and that almost all of them wanted to get information about breast cancer early diagnosis behavior. It was found that the rates of BSE, CBE, and mammography were low among SAW women and that their level of fatalism and mean scores on CHBMS BSE and mammography barrier subscales were not at the desired level. No significant difference was determined between the BSE, CBE, and mammography behaviors of SAW women and their levels of fatalism. In addition, it was found that there was a significant difference between the CBE behavior and CHBMS BSE barrier subscale and between the mammography behavior and CHBMS mammography barrier subscale.

Health personnel should provide training on breast cancer and early diagnosis behaviors of SAW women and the services should be provided as mobile health services in the environments where women work.

Considering that the level of fatalism and the perception of barriers are important in breast cancer early diagnosis behaviors, it is recommended to carry out awareness studies and provide training that will reduce the level of fatalism and the perception of barriers and conduct qualitative studies to determine the factors preventing these behaviors.

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