Original Research

A Study of Women's Beliefs toward the Breast Cancer Screening Methods

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Abstract:

Introduction: Early detection of breast cancer will have a significant impact on reducing mortality and increasing the women's quality of life. Given the important role of women's beliefs and performance toward educational and encouraging breast cancer screening programs, it is important to first determine their level of knowledge and beliefs.

Methods: In this cross-sectional descriptive study, 312 women referring to Khatam al-Anbiya breast cancer Center of Jahrom city, south Iran, were studied between 2019-2020. Data collection was performed by a validated and reliable questionnaire. Data analysis was performed using SPSS software version 21.

Results: The findings of this study showed that the mean and standard deviation of women's health belief scores in the field of mammography benefits was 11.91±3.7; 223 (71.47%) people had moderate health beliefs. In the field of breast self-examination benefits were 9.85±2.22; 254 (78.53%) people had moderate health beliefs. in the field of clinical examination benefits score was 6.09±3; 135 (43.27%) had poor health beliefs. People having higher education had a lower feeling of barriers toward the breast self-examination (B = - 0.851, p = 0.03). Also, health workers versus. Housekeeper women had the lowest score about the barriers of the self-examination (B = 0.663 P = 0.016).

Conclusion: Although health belief was at a good level in most of the fields studied, the low rate of early detection behaviors indicates that there is a need for the implication of further studies to identify factors that increase the acceptance of breast cancer screening methods and these factors should be taken into account in Brest cancer screening programs.

Keywords: Health Belief, Screening, Breast Cancer.

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Introduction

Breast cancer is a type of cancer that may affect most women, both in developed and developing countries around the world. Breast cancer is one of the leading causes of death among women in the world, with 520,000 deaths reported worldwide each year (1). The prognosis of breast cancer patients is directly related to the stage of cancer at the time of diagnosis (2). Standard clinical pathology factors such as patient age, menopausal status, tumor size, tumor tissue, lymph node involvement status, and stage of cancer may be involved in determining breast cancer prognosis (3). Approximately 1 in 8 women (13%) will be diagnosed with invasive breast cancer and 1 in 39 women (3%) will die of breast cancer (4). Risk factors for breast cancer, especially in the postmenopausal age, include obesity, inactivity, concomitant use of estrogen and progestin, and alcohol use (5). Other risk factors for also premenopausal subjects include premature menarche, late menopause,

and hormone use. Hormone use, by increasing cell division, destroys DNA, which ultimately increases cancer growth (6). Another important factor involved in breast cancer is a positive family history, especially in the first-degree family. Compared to women who have not had a family history of breast cancer, women with a positive family history of 1 person in the family have 1.5 times more chance of developing cancer than people without a family history (8-7). In Western countries, about 80% of cases are identified and treated in early stages, but in Iran, 70% of patients are identified in stages 2 or 3, which makes it difficult to definitively treat these patients (9).

According to studies, cancer prevention and early detection are necessary factors in controlling the disease and increasing survival. Therefore, prevention and screening will reduce the incidence and mortality rate (10). According to the American Cancer Society, breast self-examination, clinical breast examinations, and mammography are three effective methods of secondary prevention of breast cancer (11). Slow-growing breast cancer can be detected by mammography at least 2 years before it reaches a palpable level, and in fact mammography is the only way to detect non-palpable breast cancer (12). A study of 22 to 53 year-old women reported that breast self-examination was also a simple, cost-effective, and non-invasive screening procedure, but it was estimated that only 16% of women had regular breast self-examinations each month. Among them, 18% use mammography and 30% use breast examinations (13). Another similar study in women aged 50 to 70 years showed that 54% of these women underwent mammography, 49% underwent clinical examinations, and 31% underwent breast self-examination (14).

Health beliefs play an important role in people's desire to participate in behaviors related to health promotion (15). The health beliefs model is used to plan and evaluate interventions that are effective in changing behavior. According to this model, in order to perform a health behavior, a person must first feel the danger, understand the seriousness of its complications and the symptoms and Believe in the usefulness and applicability of the action against that disease (16). It is noteworthy that in some studies, the lack of participation in breast cancer screening is due to the lifestyle of the individual, which includes smoking (17), low activity (18), alcoholism (19). Other factors include low individual health level (19), psychological stress (20), as well as factors such as low social status in terms of education and occupation (21). According to the mentioned shreds of evidence, various factors such as the extent of access to health facilities can be effective in participating rate of women in breast cancer screening programs. Given the very important issue of breast cancer and the need for timely diagnosis, we designed a study to properly identify the health beliefs that may affect the women participant in Breast cancer screening. Given that the community of breast cancer patients is the majority of women and these people have a sensitive and important role in the family and society, on the other hand, the survival of these patients depends on early diagnosis and control, and also, considering the important role of beliefs in women's performance and the importance of mammography, limited studies have been conducted in Iran and other countries in this

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field; So we decided to conduct a study to determine health beliefs about Breast cancer screening in women referring Khatam al-Anbiya Center in Jahrom, south of Iran. We have comprehensively performed cancer and thus taken an effective and important step in maintaining and improving the health of women in society. It is noteworthy that the proportion of indigenous and Iranian studies on health beliefs is lower than in global studies. Therefore, it is necessary to do more studies in this regard in order to finally strengthen the right beliefs and factors contributing to wrong beliefs.

Methods:

This research is a cross-sectional descriptive study that was conducted in 2019-2020 in Jahrom city. The research population included all women referring to Khatam Al-Anbia Comprehensive Cancer Center of Peymaniyeh Hospital in Jahrom. Simple available sampling was done through the women referring to this center. Sampling was performed after completing the written consent form. The criteria for inclusion in the study were women who were over 18 years old, and the criteria for exclusion of the study was the patients' dissatisfaction with participating in the study. The appropriate number of people in this study was calculated to be 312 people. The data collection tool in this study was a questionnaire first used by Hassanzadeh et al. (25). The first part of the questionnaire included eleven questions related to personal characteristics (age, occupation, level of education, marital status), history of breast self-examination, mammography and clinical breast examinations, and history of breast cancer.

The second section was women's health beliefs that included 4 questions about the benefits of self-examination, 7 questions about the barriers to self-examination, 6 questions about the self-efficacy of self-examination, 3 questions about the benefits of clinical examinations, 6 questions about the barriers to clinical examination, 5 questions about the benefits of mammography and 11 questions were related to mammography barriers, and their answers in each section were based on a 5-point Likert scale as following: I strongly disagree = score 1, I disagree = score 2, I have no opinion = score 3, I agree = score 4 and I completely agree = Score 5, but in the sections related to mammography, clinical examination and self-examination barriers scoring were as follows: I completely disagree = score 5, I disagree = score 4, I have no opinion = score 3, I agree = score 2 and I completely agree = score 1 was scored. The total score of health beliefs related to the benefits of breast self-examination varied from a minimum score of 4 to a maximum score of 20. Thus, a score of 4-8 indicated poor health beliefs, 9-14 moderate health beliefs, and above 15 were considered good health beliefs. The total score of health beliefs related to mammography ranged from a minimum score of 5 to a maximum score of 25, with a score of 5 11 indicating poor health belief, 12-19 moderate health belief, and 19-25 good health belief. The total score of health beliefs related to the benefits of breast clinical examinations varied from a minimum score of 3 to a maximum score of 15, so that a score of 3-6 showed poor health beliefs, 7-10 moderate health beliefs and 11-15 good health beliefs. The validity and reliability of this tool were confirmed by Cronbach's alpha coefficient of 92% in the study of Hassanzadeh et al. (25). The data were analyzed by SPSS software version 21. Descriptive and analytical statistics were used in data analysis. To achieve the research objectives, statistical

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tests of variance analysis, Chi-square and Pearson correlation coefficient were used.

Results:

The results of the frequency distribution of the studied units according to their individual social characteristics are given in Table (1). The mean age and standard deviation of the participants in the study was 40 ± 8.86.

The score of women's health beliefs regarding the methods of early detection of breast cancer is given in Table 2. The mean and standard deviation of women's health belief score in the field of mammography benefits was 11.91±3.76 and in the field

of breast self-examination benefits was 9.85±2.22 and in the field of clinical examination benefits was 6.09±3.1. on the

According to the results, 193 people (36/2%) of the participants had experience of performed breast self-examination, and

The results of the regression model according to Table 3 showed that in the case of self-examination barriers, the education level (B = - 0.851, p = 0.03) and job (B = 0.663 P = 0.016) significantly predicted the scores of self-examination barriers. People having higher education had a lower feeling

Benefits of Breast Self-examination, 254 (78.53%) people had moderate health beliefs. 135 (43/27%) had poor health beliefs in terms of the benefits of clinical breast examinations, and in the field of benefits of mammography, 223 (71.47) people had moderate health beliefs. According to the results, 223 of the participants (71.47%) believed that mammography reduces the risk of dying from breast cancer. Also, 88 participants (28/21%) believed that mammography would help in early detection of masses. 135 people (43.27%) had good health beliefs about the barriers to clinical examination. So only (4.17%) of the participants agreed with the statement that "breast clinical examinations take a long time." 241 (77.24%) of the participants stated that "I have other major problems besides clinical breast examination.

147 (47.3%) of the participants mentioned the history of mammography.

of barriers toward the breast self-examination. Also, health workers had the lowest score about the barriers of the self-examination. In our study, there was no significant relationship between other demographic factors and the level of health beliefs of self-examination as well as other areas of screening.

Discussion:

In our study, 36.3% of participants underwent breast self-examination, and 147 (47.3%) participants reported a history of conducting the previous mammography. The results of a study by Carelli et al. showed that 30.4% of the participants performed breast self-examination on a monthly basis. In the study, Janbulat et al. (21.9%) of participants performed monthly

breast self-examination and 12.5% reported mammography history (14). In the study, Dundar et al. 10.6%of participants have had performed mammography previously (16), which is consistent with the results of the present study. In this study, it was found that there is a significant relationship between education level and positive beliefs of studied people regarding the benefits of breast self-examination. These findings are consistent with Mohammadi

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and Dadkhah's research (22). This research has shown that as women become more literate, they are more likely to overcome barriers of breast self-examination, but the trend is not the same at different levels of literacy. illiterate people had the highest feeling of barriers toward the breast self-examination. In other studies, there were some opposite results (26-23). In other words, women with higher education are more likely to be screened for cancer by themselves, and women with lower education are more likely to be diagnosed with cancer after clinical breast examinations. Brown et al. Found that lack of health insurance, lack of access to care, reduced doctor visits, fear of radiotherapy, anticipation and pain prediction, fear of test results, cultural barriers, language, and misconceptions about breast cancer are some of the factors that reduce mammography tendency in women, and the results of this study are consistent with our study (27).

The current study found that 250 women (80.13%) had poor beliefs about the adequacy of breast self-examination in finding a mass. This issue could jeopardize the health of women in our society, so providing information on the benefits of mammography is necessary. Also, its importance and accuracy should be mentioned as an essential method in the early detection of breast cancer in relation to breast self-examination. Harris concludes that those who do not participate in breast cancer screening are more likely to be less aware of the benefits and importance of these procedures (28). Abedian Kasgari et al. found that women's health beliefs that breast self-examination is sufficient to find a mass and that mammography is not necessary are among the barriers causing reduced mammography visits in women (29). In the study by Mokhtari et al., most participants had a better understanding of the benefits of breast self-examination (30). In Avci's study, women had a good belief about the benefits of breast self-examination, but in their study, they also had a moderate belief in the barriers to self-examination and self-efficacy of breast self-examination (31). In a study of Pivot et al. among women aged 50-74 years, the main reasons for not performing screening methods included feeling anxious about breast cancer, lack of motivation to take tests, and lack of doctor's advice (32). In their study, women had poor health beliefs about the self-efficacy of breast self-examination. In this study, there was a statistically significant relationship between belief in breast cancer screening methods, age, and educational status. As with age increased, participants had a higher level of education and a high health belief score was observed among them. The study by Lairson et al. found that the use of screening methods depended on the education and perceived risk of breast cancer (33). In the Mokhtari et al. study (30), there was a significant relationship between age and mammography. But no significant relationship was found between marital status and mammography.

Conclusion:

Although health belief was good in the majority of our studied subjects, the low rate of early detection behaviors suggests that some factors that increase the acceptance of breast cancer screening methods should be identified and used in educational programs to encourage women to do screening. In the end, it is suggested that there is a need for further studies to determine the effect of education on health beliefs and early detection behaviors, but it should be noted that to improve behavior of society health measure should not only rely

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on education but also attention must be paid to existing barriers.

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Variables		n (percent)
Age	16-33	53(17/04)
	33-49	211(67/85)
	49>	47(15/11)
marital status	Single	43(13/83)
	Married	259(83/28)
	Widow	9(2/89)
education level	Illiterate	6(1/93)
	Primary	48(15/43)
	Guidance	47(15/11)
	Diploma	80(25/72)
	University	130(41/80)
Job	Housewife	192(61/74)
	Working at home	18(5/79)
	Working outdoors	33(10/61)
	Health personnel	68(21/86)
history of miscarriage	No	225(72/11)
	Yes	86(27/89)
History of breast cancer	Yes	4(1/29)
	No	306(98/39)
History of ovarian cancer	No	307(98/39)
	Yes	4(1/59)
History of breast cancer in relatives	No	252(81/03)
	Yes	59(18/97)
History of ovarian cancer in relatives	No	299(96/14)
	Yes	11(3/54)

Tables and Charts:

Table 1: Distribution of demographic information

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Tabl2: Distribution of health beliefs scores.

		level of health belief			Mean ± standard deviation
		Strong	moderate	poor	
		Number (percent)	Number (percent)	Number (percent)	
Breast self-examination	The benefits of self-examination	(0)0	(78.53)245	(21.15)66	9.85±2.22
	Barriers to self-examination	(74.36)232	(24.04)75	(0.96)3	25.7±3.44
	Self-efficacy self-examination	(0.32)1	(19.23)60	(80.13)250	10.67±3.56
clinical examination	Benefits of clinical examinations	(0.64)2	(43.27)135	(55.77)174	6.09±3.1
	Obstacles to clinical examinations	(77.24)241	(17.95)56	(4.17)13	20.21±4.73
Mammography	Benefits of mammography	(0)0	(71.47)223	(28.21)88	11.91±3.76
	Obstacles to mammography	(0.32)1	(6.09)19	(93.27)291	18.43±6.21

Table 3: The relationship between the level of health beliefs of breast cancer screening and demographic information

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variables		Age	Number of pregnancies	number of children	marital status	education level	Job	Economic level	History of Abortion	Breast Cancer	Ovarian Cancer	P
Breast self-examination	benefits	-	-	-	-	-	-	-	-	-	-	0.318
	Barriers	-	-	-	-	B=-0.851 p=0.03	B= 0.663 P=0.016	-	-	-	-	0.001
	Self-efficacy	-	-	-	-	-	-	-	-	-	-	0.077
clinical examination	benefits	-	-	-	-	-	-	-	-	-	-	0.702
	Barriers	-	-	-	-	-	-	-	-	-	-	0.220
Mammography	benefits	-	-	-	-	-	-	-	-	-	-	0.524
	Barriers	-	-	-	-	-	-	-	-	-	-	0.054

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