

Health Damaged Context: Barriers to Breast Cancer Screening from Viewpoint of Iranian Health Volunteers

Hossein Safizadeh¹, Sara Hafezpour², Parvin Mangolian Shahrabaki^{3*}

Abstract

Background: Breast cancer is common among cancer diseases and the second leading cause of death among women worldwide. The breast cancer-caused death is directly associated with diagnosis time of the disease. Screening is one of the major methods for health promotion in human societies. However, many women still refuse to do the periodic screening. The present study is aimed to analyze the experiences of health volunteers in order to understand the barriers to breast cancer screening among women at southeast of Iran. **Methods:** Data collection was performed through focus groups. Using the purposive sampling method, 24 participants were selected and then were allocated to 6-member groups. The data were analysed using Lundman and Graneheim qualitative content analysis. **Results:** The main theme of “Health Damage Context” was extracted with four main categories, including: family barriers, cultural and social barriers, personal barriers and organizational barriers. **Conclusion:** Based on the results of the present study, there are numerous barriers to regular breast cancer screening, and for the same reasons, the willingness to screening is sometimes not satisfactory. Therefore, in case of the women’s referral to health centers, nurses and other health-care professionals should inform them about the role of different screening methods in early diagnosis and rapid treatment of breast cancer.

Keywords: Breast cancer-screening- barrier- health volunteers- prevention

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Introduction

Breast cancer is common among cancer diseases and the second leading cause of death among women worldwide (Abuidris et al., 2013; Goel and O’Conor, 2016; Wu and Lin, 2015). In the United States, early diagnosis of breast cancer has reduced its mortality death rate by nearly 34%; besides, in Europe, the breast cancer-caused mortality is also reported to be reduced by 25%-31% (Murillo et al., 2016).

The breast cancer-caused death is directly associated with diagnosis time of the disease; so that, if it is diagnosed at an early stage, the 5-year survival rate will be about 80-90%, while it will be reduced to 22-63% at final stages (Borji et al., 2007; Monfared et al., 2017). In addition to high mortality, diagnosis of breast cancer in advanced stages may expose the patients to numerous physical and mental sufferings and reduced quality of life as well as imposing considerable costs on the patients, families, and society (Brunault et al., 2016). Regarding the characteristics of breast cancer, including slow growth, diagnosability, and effectiveness of treatment at early stages, screening is of great importance (Avci, 2008).

Screening is one of the major methods for health promotion in human societies (Bell et al., 2017;

Sharma et al., 2015). The WHO has proposed two strategies of training and screening for early diagnosis of breast cancer (Hashemian et al., 2014; Leeman et al., 2013). However, many women still refuse to do the periodic screening (Leeman et al., 2013; Sun et al., 2015). Breast self-examination is a simple, accessible, and affordable method for early diagnosis of breast cancer, which can be effective for reducing the mortality rate among these patients (Abera et al., 2017; Bulut and Bulut, 2017). The American Cancer Society recommends regular monthly breast self-examination, particularly for women aged above 35 years old (van den Ende et al., 2017). Researchers emphasize that women should be also informed of other screening methods, because diagnosis of breast cancer via clinical examinations and mammography can provide a reliable screening to a large extent (Sheppard et al., 2013). According to the studies in this regard, the simultaneous use of self-examination and mammography has resulted in a 25% decrease in breast cancer-caused deaths (Shahvari and Gholizade, 2006).

In Iran, the incidence of breast cancer is increasing (Monfared et al., 2017). The age of affliction among Iranian women is almost 10 years lower than that among the in advanced countries (Monfared et al., 2017; Shahvari and Gholizade, 2006), and the highest

¹Social Determinants of Health Research Center, Institute for Futures Studies in Health, ²Student Research Committee, ³Nursing Research Center, Department of Medical Surgical Nursing, Faculty of Nursing and Midwifery Razi, Kerman University of Medical Sciences, Kerman, Iran. *For Correspondence: p_mangolian@kmu.ac.ir

prevalence is observed to be between the ages of 40 and 49 (Rahmati Najarkolaie et al., 2012). In Iran, breast cancer screening is not performed widely, since majority of the Iranian women lack the required knowledge in this regard; besides, some cultural barriers, such as belief in fate and pudency, also prevent them from undergoing the screening methods (Monfared et al., 2017; Mousavi et al., 2007). Researchers believe that the health beliefs, which are influenced by the culture of different societies, can play a major role in people's health behaviors (Canbulat and Uzun, 2008; Shirayazdi et al., 2014). According to the recent studies, nearly 70% of the Iranian women with breast cancer have been diagnosed at advanced stages and, therefore, have encountered treatment complexities (Monfared et al., 2017; Mousavi et al., 2007). Whereas the use of screening methods and early diagnosis of cancer can help achieving a better prognosis, yet it seems that the Iranian women's knowledge of breast cancer and diagnostic methods is very little, and also there is a lack of sufficient preventive programs and regular screening training for breast cancer (Ranjesh et al., 2017).

In order to promote the health level in society, the "Health Volunteers" plan was implemented in Iran since 1993. The health volunteers include volunteer women with minimum educational level of reading and writing up to academic degrees, who are interested in social and charity activities without any financial desires. By learning the basic health concepts and attending in training sessions, they convey the health issues to their covered families and encourage them to observe the health instructions and utilize the services provided by health centers (Monfared et al., 2017).

Since the health volunteers have the most connection with the women in their under-coverage area, they are expected to have important information and experiences on breast cancer screening programs. On this basis, by designing a qualitative study, the present work is aimed to analyze the experiences of health volunteers in order to discover the barriers to breast cancer screening among women at southeast of Iran; because, the use of qualitative approach facilitates investigating the nature of this phenomenon on its natural and real context.

Material and Methods

Design

Collection and analysis of data was performed through qualitative study with content analysis approach. The content analysis approach is typically used to investigate and clarify the concepts, words, and phrases within a text (Sheppard et al., 2013; Shahrabaki et al., 2016).

Sample and setting

This study was conducted in Kerman from Apr 2016 to Dec 2017. In the present study, using the purposive sampling method, 24 participants were selected from among the health centers in Kerman city (the largest health center at southeast of Iran), and then were allocated to 6-member groups. Since the health volunteers deal with women directly, they can provide their

rich experiences on the breast cancer screening barriers; therefore, they were selected through the neighborhoods' local health centers and then invited to participate in the project. The participants had enough experience of 3-7 years, physical and mental health, and fluency in Persian language. They were selected with a diverse range of age, work experience, and educational level. The interviews were performed, with regard to their consent on the time and location of the interviews, at the health center of each neighborhood. Sampling continued until saturation. Saturation means that no new data is added anymore.

Data collection procedure

Data collection was performed through focus groups, since the focus group approach can provide very rich and valuable information about a specific subject. In each focus group, one of the researchers was responsible for directing and leading the interviews, and others served as note-takers. At four 60-120 min semi-structured sessions, the interviewer encouraged all the subjects to take part in the discussion, provide experiences, and have interaction. At the beginning of each focus group, a few questions were asked to create a friendly environment. Then, according to the data analysis and probing, interview was guided toward the purpose of the study. The sample questions included: "According to your experiences, what are the breast cancer screening barriers to which the women are exposed? How do they deal with these barriers? How do they feel in case of dealing with such barriers?" Also, health volunteers were questioned as a claimant about their personal experience with the breast cancer screening barriers. Then, in accordance with the given answers, some questions were asked in order for exploration and discovery. In the meantime, the second researcher took the notes accurately mentioning the subject's number. The researchers were used the participants' nonverbal communication such as facial expressions and hand gestures to ask exploratory questions in order to achieve the purpose of the study.

Data analysis

The data analysis process was performed on the basis of the steps proposed by Lundman and Graneheim. Accordingly, each interview was immediately typed down word-by-word; then, to achieve a general perception of the content, it was read for several times, and the primary codes and semantic units were determined. Afterwards, the codes were merged and then classified in more comprehensive classes based on their similarities; finally, the concept and content hidden in the data were extracted (Ranjesh et al., 2017) (Table1). During the process of data collection and analysis, the researcher took down notes on any kind of mental sparks associated with the given data and used them for the following interviews (Shahvari and Gholizade, 2006).

The trustworthiness of the study was tested using Guba and Lincoln criteria. The researcher was constantly engaged with the research topic, data, and participants for one year, since preparing the primitive conditions for an in-depth interview necessitated trust-building. To compare the extracted ideas, a part of the text along with the primary codes was checked by the participants,

and then the created classes and concepts were reviewed and approved by supervisors.

Ethical considerations

This study was approved by the relevant ethical committee (number: IR.KMU.REC.1395.668). At the beginning of the interviews, once the informed and written consent was obtained, the researcher informed the participants of the study objectives, confidentiality of their information, and their right for participating or not participating in the study. Furthermore, it was emphasized that every individual participant is responsible for confidentiality of the information. Each participant was identified by a number. Also, in case of the subject's consent and agreement, the interview was recorded by a digital recorder.

Results

On the whole, a total of 6 focus groups were performed. Out of 24 health volunteers with average age of 42 years, majority of them were married (87.5%), and had high school diploma and associate degrees (70.8%), 20.8% had experienced regular breast self-examination, 16.7% had experienced clinical examinations, and 25% had experienced mammography.

By analyzing the collected data, the main theme of "Health Damaged Context" was extracted with four categories, including: (1) Family barriers with subcategories of fragile emotional relations with spouse and obsessive attachments to children; (2) Cultural and social barriers with subcategories of fear of judgment (being judged), Embarrassment in the cultural context deterrent beliefs, and native lifestyle; (3) Personal barriers with subcategories of negligence and carelessness, lack of knowledge, false or deceptive confidence, mental and psychological distress, and deterrent fears; and (4) Organizational barriers with subcategories of deficiency in supportive resources and lack of efficient specialized staff (Table 2).

Family barriers

One of the most important cases, which the participants had frequently encountered during their working experience, was the family-associated barriers that prevented women from performing the breast cancer screening.

Fragile emotional relations with spouse

The fear of losing beauty, and the consequent mood changes, pessimism, and indifference of the spouse

were the major cases expressed by the participants. Also, the lack of mutual understanding between couples, lack of the spouse's support, fear of the spouse's remarriage and being rejected by him, and fear of family breakdown were among the major cases causing the sense of insecurity about future as well as non-tendency toward breast cancer screening.

"I'm afraid of screening, if I'm diagnosed with cancer, my body will be ruined with surgery, and I'm sure that my husband's view on me will change." (A 45-year-old woman without screening experience)

"A woman told me: 'due to the history of cancer in my family, I don't dare going for screening, because my husband and I don't have much firm relations, and in case of having breast cancer, he will become angry and mistreat me'." (A 47-year-old woman with screening experience).

Obsessive attachments to children

Some women are afraid of their maternal role and think that, in case of early diagnosis of their breast cancer, they will not be able to take care of their children as before, because early diagnosis of breast cancer might disturb the children's mental status and cause physical and educational damages to them. In some cases, in the Iranian families, the culture of maternal protection of children is such strictly strong that the mother prefers to hide her disease for the sake of her children.

"A mother, because her daughter was about to marry, hid her breast tumor from her family, so that after two years of silence, her tumor was developed and progressed, and she died a few months later." (A 44-year-old woman without screening experience)

"The people of Kerman are very sentimental, so the parents are willing to sacrifice their health for their children." (A 39-year-old woman with screening experience).

Cultural and social barriers

Fear of judgment (being judged)

The fear of judgment or being judged by friends and family in case of early diagnosis of breast cancer has caused disinterest of many women in screening. Due to the sense of pity observed in social behaviors, women prefer to avoid screening in order to escape such pity as well as frequent greetings and questions asked to know of their health. Sometimes, they even hide the suspicious mammary tumors, which cause their exposure to the risk of

Table 1. Example of Qualitative Content Analysis Process

Category	Sub-category	Open code	Meaning units
Family barriers	fragile emotional relations with spouse	Fear of husband's view about change of body	I'm afraid of screening, if I'm diagnosed with cancer, my body will be ruined with surgery, and I'm sure that my husband's view on me will change.
	obsessive attachments to children	Sacrificing health for the convenience of children	The people of Kerman are very sentimental, so the parents are willing to sacrifice their health for their children."

cancer tumor development.

“My aunt was an athlete, but she died of cancer at youth because of secrecy, she didn’t like others coming to visit her, she didn’t like to be judged by others, because she had got cancer despite being an athlete. Even we, as her family, didn’t know about her disease.” (A 46-year-old woman without screening experience)

“Our culture is such that when screening for diagnosis of cancer is prescribed for someone, we put it in such an uproar that she might be dissuaded from performing the screening, and even in case of having diagnosed tumor, she would prefer to hide it.” (A 41-year-old woman without screening experience).

Embarrassment in the cultural context

In the Iranian culture, and Kerman city in particular, women feel embarrassed and stressed for being examined or undergoing mammography by a physician, especially a male physician, and thus they refuse to undergo clinical examinations and mammography.

“The pudency of women in Kerman causes their fear from examination.” (A 48-year-old woman without screening experience)

“Radiologists and mammographers are often men, so we feel embarrassed to be examined by male doctors.” (A 36-year-old woman without screening experience).

Deterrent beliefs

Some special beliefs, such as belief in fate and the fact that people have no effectiveness or interference in their future, or the belief that they would never be afflicted by cancer cause that they do not tend or decide to perform breast cancer screening.

“I believe that whatever God wants will happen. So if God wants me to get cancer, surely I will get, and if God doesn’t want me to get cancer, so I won’t.” (A 44-year-old woman without screening experience)

“We always think that the disease is only for our neighbors, so we don’t believe that we might also get cancer one day, and this is why we don’t care about screening.” (A 36-year-old woman without screening experience).

Native lifestyle

The lifestyle of people living in a specific region can affect their culture of life and self-care. According

to the participants, culture of the women in Kerman is mainly focused on having complete and up-to-date home appliances and managing the family and home affairs rather than their own health.

“We, as the women living in Kerman, care about our home appliances much more than our own health, so we usually sacrifice ourselves. In cultural terms, we have been grown up in such a way that we rarely regard and spend time for our own health.” (A 38-year-old woman without screening experience).

Personal barriers

Negligence and carelessness

In many cases, indolence, laziness, and negligence make the people careless about their own health, so that they cannot have a proper planning for implementing the health care programs and allocating a part of their time to health promotion affairs.

“Despite the pain in her breast, my colleague didn’t go for an examination because of her laziness, until the cancer was developed and took all over her body, so that physician got despaired of her treatment.” (A 41-year-old woman with screening experience)

“My friend has breast cancer, and one of her breasts has been removed. Although her mother had cancer, but she didn’t went for screening even once, she didn’t exercise, she was obese, and she did not care about her health at all.” (A 32-year-old woman without screening experience).

Lack of knowledge

One of the most important barriers emphasized by most of the participants was the lack of sufficient knowledge on different screening methods, which led to unawareness of the women about breast cancer and importance of its early diagnosis. The lack of knowledge of the breast anatomy and inability to discriminate between milk tubers and breast tumors would cause stress among women, so they prefer not to perform the breast self-examination. Furthermore, the lack of correct information on clinical examinations and mammography, and sometimes receiving wrong information about harmfulness and painfulness of mammography may lead to the women’s distrust on screening methods, and thus they avoid from undergoing screening even in case of having tumors, so that they are faced with uncontrolled growth and progress of tumors.

Table 2. The Category and Subcategory Related to the Experiences of Health Volunteers about Barriers to Breast Cancer Screening

Main theme	Category	Sub-category
Health Damaged Context	Family barriers	fragile emotional relations with spouse obsessive attachments to children
	Cultural and social barriers	fear of judgment (being judged) Embarrassment in the cultural context deterrent beliefs native lifestyle
	Personal barriers	negligence and carelessness lack of knowledge false or deceptive confidence mental and psychological distress deterrent fears
	Organizational barriers	deficiency in supportive resources Lack of efficient specialized staff

The most important solution and approach for health volunteers in this regard is to encourage the women for screening and train them in order to improve their knowledge in this regard.

“There are many glands in the breast, every time I touch them I think I might have got cancer. My several years of experience show that the main reason for not performing the screening is the lack of knowledge about it and unawareness of its importance.” (A 37-year-old woman without screening experience).

False or deceptive confidence

Some women might get some kind of false or deceptive confidence and have tendency and willingness for screening merely because of being athlete, following a special diet, or having no family history of cancer. On the other hand, the seductive advertisements on some medicinal and herbal products have persuaded some of the women to use these drugs, while recommendations and advices of non-experts can cause the individuals with false confidence to avoid from the actual screening methods.

“My aunt said that she was an athlete and thus she would never get cancer, but unfortunately she was diagnosed with breast cancer when it was too late, and she died after a single year.” (A 40-year-old woman with screening experience)

“I frequently use herbal medicines, so I think I will not get cancer. My friends do the same.” (A 37-year-old woman without screening experience).

Mental and psychological distress

Majority of the participants considered mental and psychological problems among women as a serious barrier to breast cancer screening, and expressed that many women give no care about their health due to depression and mental distresses, so that such a weak mood, and sometimes the lack of affection and emotion, results in their non-tendency toward screening.

“One of my friends was depressed. I told her several times to go for breast examination, but she said ‘when no one respects and cares about me, why should I go for examination! It’s useless’.” (A 47-year-old woman with screening experience).

Deterrent fears

In many cases, it is the fear that prevents breast cancer screening. The fear from the screening results, and consequently the probable engagement with severe complications of treatment such as loss of hair and beauty due to surgery or chemotherapy, and even the fear from disability and death cause the women’s unwillingness to screening.

“Most of the women that I know don’t go for screening because they are afraid of being diagnosed with cancer by physician” (A 41-year-old woman without screening experience)

“I myself prefer to not know about having cancer because of my fear of chemotherapy” (A 43-year-old woman without screening experience).

Organizational barriers

Deficiency of supportive resources

Many of the participants declared that the health system’s infrastructures are not efficient for breast cancer screening, because the relevant authorities do not pay enough attention to training and improving the knowledge of people. Inaccessibility of appropriate up-to-date information resources, lack of educational information in the form of books and pamphlets, and failure to provide proper information through media and training teams lead to the lack of sufficient knowledge among people in this regard. The subjects declared that the errors caused by old and out-of-service devices, or sometimes an experience of a painful mammography, or even spending considerable time and cost for reservation are among the factors that may lead to the families’ unwillingness to screening. Many of the families have such economic conditions that they cannot afford clinical examinations or mammography. However, if the profiteers had less greed, and also low-cost screening methods were available to everyone, then screening would be more popular and more welcomed by people. Some of the participants also stated that training for girls should begin at their adolescent ages, while such trainings are not taken into consideration in the educational system in our country.

“The authorities don’t care about this issue. Why shouldn’t the young girls know about breast cancer? Why don’t the women know anything about the screening methods?” (A 37-year-old woman without screening experience)

“I myself have referred for mammography several times, but either the devices were out-of-service or I could reserve an examination for two months later, so I didn’t go anymore.” (A 42-year-old woman without screening experience).

Lack of efficient specialized staff

A group of the participants stated that the lack of accordance between technology advancement and performance of the specialists is a serious barrier to the screening process. Some of the specialists fail to make appropriate communication with people and do not point out the importance of early diagnosis of breast cancer; furthermore, sometimes, due to carelessness, not spending enough time, lack of up-to-date knowledge, fatigue, and work pressure, they fail to diagnose the disease, which can result in the patients’ distrust. A group of participants also stated that disregard of the patient’s privacy by physician, crowdedness of clinics, or very high costs of the doctors’ visits are among other major barriers to breast screening.

“We do not have a doctor here. There is only a doctor who comes once a month, so the clinic becomes so crowded that he never has enough time for an exact examination.” (A 43-year-old woman without screening experience)

“Once, a doctor told to one of my friends that she had no tumors in her breast, while she had breast cancer. So because of such mistakes, I cannot trust the examinations.” (A 49-year-old woman without screening experience)

“Sometimes you spend considerable time and cost for examination, but the doctor treats you so disrespectfully that makes you repent of referring for examination. Also, some doctors only try to visit more patients.” (A 51-year-old woman with screening experience).

Discussion

Findings of the present study showed that women in Iran are facing numerous barriers for breast cancer screening. Based on the experience of health volunteers, under a main theme of “Health Damage Context”, these barriers are consisted four categories including: “family barriers”, “cultural and social barriers”, “personal barriers”, and “organizational barriers”, each of which includes some sub-categories as well.

Family barriers are among the most important barriers to breast cancer screening. The loose relationships between the spouses and the fear from not being supported by husband due to the loss of beauty, on the one hand, and the obsessive attachments to children, on the other hand, are among major causes of unwillingness to screening. Nemours studies emphasized the important role of family support on disease management by patients (Mangolian et al., 2016; Mangolian et al., 2017). In this regard, number of studies considered the concerns about the spouse’s accompaniment and excessive engagement with housekeeping affairs as the major causes for women’s avoidance from referring for breast cancer screening (Lamyian et al., 2008; Lamyian et al., 2008).

It seems that such kind of thought is resulted from the lack of knowledge about the importance of early diagnosis of cancer. Confirming the results of the present study, Mangolain et al., (2012) wrote that if women were aware of severe consequences and possibility of death caused by late diagnosis of breast cancer, they would exhibit more willingness to cancer screening. Similarly, Goel and O’Conor (2016) also showed that women with knowledge of the valuable advantages of breast cancer screening showed more willingness to it. On this basis, women should be aware that early diagnosis and treatment of this disease would help them playing their maternal role in a much better manner.

Cultural and social barriers are among other major barriers to breast cancer screening. Approving these results, Mokhtari et al., (2013) found that the cultural and social differences are one of the most important reasons for different levels of willingness to breast cancer screening in different societies. Cohen and Azaiza (2006) reported that having better cultural beliefs about health led to a higher rate of referral for screening among Jewish women compared to Arab women. The world breast health plan also put the emphasis on training and cultural values in order for promoting the breast cancer screening in developing countries (Rasu et al., 2011). Therefore, it should be noted that the cultural and religious beliefs of any country or nation are specific; accordingly,

social norms should be considered in training, and also the screening messages should be designed regarding the specific cultural sensitivities of that region (Ravichandran et al., 2011).

The fear of pity, fear from being judged, and sense of embarrassment and pudency are among the cultural barriers that cause the women’s avoidance from referring for clinical examinations and mammography. Consistent with these results, Calderón-Garcidueñas et al., (2015) expressed that the sense of pudency (embarrassment) is one of the barriers to mammography. Also, number of studies showed that the cultural and ethnic prejudices are among the main reasons for women’s refusal for referring to male physicians (Peters and Cotton, 2015; Vetto et al., 2000).

The belief in fate as well as some other beliefs among some of the women are among other barriers to breast cancer screening. Similarly, Lamyian et al., (2008) showed that there are some thoughts and attitudes that expose the system of beliefs to the risk of damage and also cause that the risk of breast cancer is treated indifferently and not considered serious enough. Consistently, Drossaert, Boer and Seydel (2003) considered the beliefs as the most important predictor of breast cancer control behavior; since, deterrent beliefs can lead to an inappropriate understanding of the threatening situation, disturbance in self-efficacy for health-seeking, as well as the individual’s non-responsibility for the preventive advices. In addition, Calderón-Garcidueñas et al., (2015) also showed that belief in fate is one of the major barriers to mammography.

Some thoughts are rooted in the individuals’ lifestyle, which affect their perception for performing the self-care behaviors; accordingly, some individuals prefer to deal with native and traditional methods rather than technology. In this regard, Lamyian et al., (2008) reported that lifestyle and thoughts such as fear of labelled by cancer within the family and relatives is a major factor causing avoidance from making an appropriate and on-time action.

Moreover, personal factors are considered among the factors that prevent breast cancer screening. The negligence and carelessness are among the major personal factors that lead to the women’s neglect and lack of motivation for performing the health behaviors. Consistent with these results, Lamyian et al., (2008) showed that calmness, heavy work responsibilities, and housekeeping provide the ground for a kind of tendency toward unwanted negligence. Many of researchers in this regard have mentioned amnesia and negligence as one of the major barriers to screening (Drossaert et al., 2003). In a study conducted on Korean-American women, Borji (2017) showed that the culture-oriented training led to increase in perceived benefits and reduction in anxiety and fear.

Results of this study introduced the women’s lack of knowledge about different screening methods as one of the fundamental barriers to breast cancer screening, since the lack of essential information might lead to the individuals’ unwillingness toward screening due to their fears, misunderstanding (misconception), and sometimes the incorrect information. In many studies the women did not have appropriate information about

screening methods and its importance (Mokhtary et al., 2013; Ogunsiji et al., 2013). Secginli and Nahcivan (2006) showed that 56% of the women aging above 40 years had no knowledge about mammography, and only 25% had experienced mammography at least once in their lifetime. According to many studies incomplete information and poor health-oriented advertisements and media are among the breast cancer screening barriers (Lamyian et al., 2008; McCready et al., 2005). Several studies with emphasis on community-oriented education have shown that it should be attempted to persuade people to increase their knowledge, modify their attitudes, and improve their performance in order for prevention and early diagnosis of breast cancer (Ceber et al., 2010; Rasu et al., 2011; Sharma et al., 2015).

False or deceptive confidence is another personal barrier, which causes some women to feel that they do not need to participate in the breast screening programs. Similarly, it has been declared that some women do not tend to undergo breast cancer screening due to having no history of breast cancer (Monfared et al., 2017; Rahmati Najar kolaie et al., 2012). In a similar study conducted on Korean-American women, it was found out that the most common barrier to mammography is their belief that they are not exposed to the risk of breast cancer (Juon et al., 2004). It seems that such a false confidence, which is rooted in women's poor knowledge and understanding, can be modified through implementing various training methods.

Mental and psychological distresses cause some women to not care about their health and lack the required mood and desire for participating in the breast cancer screening programs. Consistent with this result, several studies have shown that a strong and positive spirit (mood) can be effective in making proper decisions and exhibiting proper performance in terms of health care; because, these individuals consider controlling the breast cancer as a new opportunity for living and also regard accountable efforts for early diagnostic measures as a pleasant feeling (Gardner et al., 2013; Sharma et al., 2015).

One of the most important barriers to breast cancer screening is the fear from tumor malignancy, treatment complications, and death. Similarly, Lamyian et al., (2008) showed that fears such as fear of incurable disease, disability, and the false fear caused by physicians can prevent the proper and on-time actions. Mokhtari et al., (2013) expressed the fear from malignancy of breast tumors as the most common reason for avoiding the clinical breast examinations. However, in contrast with this finding. Several studies showed that sometimes the women's fear and anxiety serve as a motivation for screening. Of course, such kind of fear is commonly experienced by those women who have observed the sufferings breast cancer among their relatives or families (Shahvari and Gholizade, 2006).

The organizational barriers, in the form of shortage of supportive resources as well as efficient specialized health staff, cause that the Iranian women cannot exploit breast cancer screening despite their tendency and willingness for it. Similarly, Lamyian et al., (2008) proposed the lack of sufficient information on breast cancer, lack of a constant

health information system for women, lack of sympathy with patients, crowded clinics, non-profitability of training, impermanent (or temporary) advertisements, as well as the lack of a specialized newspaper or journal on women health as the major factors of negligence and carelessness. In confirmation of these results, the researchers believe that access to the screening services providing centers as well as financial support can be effective in accepting and welcoming the breast cancer screening by women (Monfared et al., 2017; Sun et al., 2015). In Mokhtari et al., (2013) study, the most common barrier to mammography was the belief in painfulness of mammography. Abuidris et al., (2013) found that the lack of accessible information resources and also the lack of screening centers and specialized experts can expose breast cancer screening to various challenges. It seems that the seriousness and precision in monitoring the referring patients, providing the necessary facilities for transfer to screening centers, and providing periodic examinations programs can motivate and encourage the women to participate in the screening programs.

This study was accompanied by a limitation. Despite the researchers' efforts to select diverse groups, the answers provided may not reflect the general population of health Volunteers. So it is recommended that this study be conducted in different cultures.

In conclusion, based on the results of the present study, it seems that, regarding the increasing prevalence of breast cancer among the Iranian women, there are numerous barriers to regular breast cancer screening, and for the same reasons, the willingness to screening is sometimes not satisfactory. Therefore, in case of the women's referral to health centers, nurses and other health-care professionals should inform them about the role of different screening methods in early diagnosis and rapid treatment of breast cancer. Results of the present study reveal the necessity of the health authorities' focus and emphasis on reinforcing the families' stability and providing a happy environment in order for encouraging them to take into consideration the issue of their health. Providing the required facilities for low-cost and easily accessible screening, especially for the at-risk groups, can be effective in diagnosis of the early symptoms of breast cancer. Also, by referring to the results, governors can add this context in the university as a part of the student's lessons.

Conflict of interest

The authors declare that they have no competing interests.

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