Original Article

# Iranian Women's Experience of Self-Care in Breast Cancer Prevention: A Qualitative Study

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## Abstract

**Background:** The mortality rate of breast cancer has increased in women who are referred late in the advanced stages of their disease, while morbidity and mortality from cancer can be reduced through prevention programs, such as self-care behaviors and early detection. Therefore, more attention should be paid to primary prevention, self-care, and the role of women in breast cancer prevention. The aim of this study was to describe women's experiences of self-care in breast cancer prevention. **Materials and Methods:** In this descriptive-exploratory qualitative study, 38 participants, including 23 women who were eligible for breast cancer screening, eight service providers, and seven health policymakers, were selected by purposive sampling. Data were collected through semi-structured interviews and analyzed using conventional qualitative content analysis. To assess data trustworthiness, Lincoln and Guba's criteria were used. **Results:** The results of this study are summarized in one theme, three categories, and eight subcategories. The theme extracted from the data analysis was "the agency of women in self-care in breast cancer prevention," which included three main categories: women's understanding of the concept of self-care in breast health, subjective challenges in breast cancer prevention, and active management and follow-up of breast health status. **Conclusions:** This study provided a new understanding of the experience regarding women's self-care in breast cancer prevention. The experiences were in a wide range demanding comprehensive attention. Healthcare authorities/providers can use the findings of this study to develop strategies to support women regarding preventive self-care for breast cancer.

**Keywords:** *Breast neoplasms, Iran, prevention and control, qualitative research, self-care*

## Introduction

Breast cancer is one of the most critical concerns in women's health. It is also the most common type of cancer worldwide. Statistics from the World Health Organization show that the incidence of the disease has increased. Breast cancer, with a prevalence of 11.7% and a diagnosis of 2261419 new cases, was recognized as the first common cancer in the world in 2020. In Iran, in 2020, breast cancer, with a prevalence of 28.1% and 16967 affected cases of women, ranked first among cancers in women and fifth in terms of mortality.[1] In developing countries, such as Iran, mortality and prevalence of breast cancer are increasing; the deaths due to it will increase to 7000 cases by 2035. However, approximately 23% of breast cancer cases are observed in the population under 40 years old, and 70% of women die due to diagnosis in advanced stages.[2] In a recent study, the mean age of women with cancer in Iran was reported to be 49.6 years old,[3] which is a decade lower than global statistics and reported in the fourth and fifth decades of life. However, in Western societies, the mean age of breast cancer is 60 to 70 years.[4] Many women in advanced stages of cancer refer to medical centers for treatment,[5] which has led to an increasing trend in mortality due to this disease. Breast cancer affects women in the best reproductive years of their lives.[6] Patients with cancer face multiple concerns, including physical and cognitive vulnerability, comorbidities, and lack of life expectancy.[7] These women are unable to play their roles in the family and society

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properly.[8,9] Cancer imposes a tremendous economic burden on the patient and the treatment system.[10] The costs of cancer treatment are very high compared to its prevention, and financial and human resources are limited in the health system.[11-13] The economic burden of breast cancer in Iran was US$947,374,468, and it is expected to increase significantly due to the increasing incidence rate.[14] Thus, breast cancer can create numerous health, social, and economic challenges for women,[15] while morbidity and mortality from cancer can be reduced through prevention programs. Primary prevention aims at avoiding high-risk behaviors that cause cancer, and secondary prevention, which includes early diagnoses and screening, can reduce or stop cancer progression.[7]

In countries, such as Iran, due to limited resources,[16] more emphasis should be placed on primary prevention, self-care, and the role of women in breast cancer screening. Self-care behaviors can prevent this disease to some extent. Self-care is a learned strategy an individual adopts to maintain and improve life, health, and well-being and prevent and treat an illness.[17] Few studies have focused on women's self-care experiences in breast cancer prevention. Most studies have quantitatively examined the factors related to Breast Self-Examination (BSE) or the level of women's participation in screening.[18-20] However, studies that can depict a comprehensive understanding of self-care in people's lives should be conducted. Identifying and removing cultural and social barriers, planning to correct beliefs and attitudes about breast cancer, raising women's awareness and knowledge about the symptoms of breast cancer, and BSE have been found to be effective in preventing cancer.[21,22]

Therefore, the need for studies that can provide the required information is felt to be essential since the first step in investigating self-care is to identify stimuli and inhibitors. These factors can vary from community to community, as in one study in Malaysia, overweight,[23] and in another study in Australia, impaired body image following obesity prevented BSE.[24] In other studies, women believed what was taught was actualized; consequently, they avoided discussing cancer.[25,26] Pakistani women in London believed that breasts should be taken care of. As Islam commands, they should take care of their whole body, and they had no problem with BSE; however, they still did not feel good about the clinical examination of their breast by a male doctor.[27] Thus, cultural factors affect women's perception of breast cancer, screening, and BSE[19] and can hinder women from participating in screening and self-care programs. Awareness of women's experiences of self-care in breast cancer prevention based on their culture and beliefs is essential to adopt effective health promotion programs and strategies to protect and reduce their mortality.[28,29] Programs that do not take into account women's cultural beliefs will not succeed in promoting care programs; in contrast, programs that use culturally appropriate strategies can effectively increase women's participation.[30] This study aimed to explore Iranian women's experiences concerning self-care in the prevention of breast cancer.

## Materials and Methods

This qualitative content analysis design was conducted in 2020 from April 2020 to October 2020. Participants in this study were 38 individuals, including 23 women who were eligible for breast cancer screening. The age range of these participants was 21–65 years. Moreover, eight healthcare providers (gynecologists, radiologists specializing in breast cancer diagnosis, a general surgeon with breast surgery experience, a Ph.D. in reproductive health, general practitioners, and midwives) and seven health policymakers participated in this study. Participants included 35 women and three men. The selection of participants in the client section was purposeful and with maximum variation in terms of age, employment, level of education, and reproductive status. Healthcare providers and policymakers were also selected based on different occupations and responsibilities. The criteria for selecting female participants included living in urban areas, being over 20 years old, and being willing to participate in the study. Unwillingness to continue participating in the study was the exclusion criterion. The health team members are responsible for providing appropriate care and education for patients and their families. Therefore, it is necessary to provide more in-depth insight into healthcare conditions and to explore the experiences of the healthcare provider team. Therefore, other participants who had the experience of training, treating, and caring for breast cancer patients and who were willing to participate in the study were also included. They were selected by the Vice Chancellor of Health, comprehensive health centers, and hospitals affiliated with the Isfahan University of Medical Sciences, Isfahan, Iran.

The study setting consisted of all healthcare centers for women, such as comprehensive health centers in Isfahan, participants' homes, or other places where they felt comfortable during the interview. Data were obtained through semi-structured individual interviews. An interview guide was used to guide the interviews. The validity of the guide was confirmed by three faculty members of nursing and midwifery school of the Isfahan University of Medical Sciences, Isfahan, Iran, who were experienced in qualitative studies. Moreover, two pilot interviews were conducted, and required changes were made to the questions. These interviews were held by the 10$^{th}$ author and appraised by the first and second authors. The duration and location of the interviews were determined based on the participants' opinions, experiences, comfort, and willingness. The interviews lasted from 30 to 75 minutes, 50 minutes on average. Interviews were conducted with open-ended questions

using the interview guide. During the interview, the participating women were asked to talk about their experiences of self-care, prevention of breast cancer, and its risk factors. Examples of questions asked of participants were as follows: How do you think a person is at risk for breast cancer? How do you care for yourself against breast cancer? Have you encountered a particular problem doing this care? What factors help you to take better care of yourself? Service providers were also asked questions such as: Tell us about your experiences with the current state of breast cancer prevention in women. What are the barriers to breast cancer prevention based on your professional experience? Exploratory questions were asked based on participants' answers to the main questions of the interview. Data collection continued until data saturation was reached; it was when new interviews did not add a new concept to the existing data, and duplicate concepts were obtained. The interviews were recorded using a mobile voice recorder. Participants' nonverbal cues were noted during the interview. After each interview and listening to the recorded file several times, the content of the interview was transcribed verbatim. In all cases, participants consented to the interview being recorded.

Data analysis was performed using the conventional content analysis method of Graneheim and Lundman.[31] In this method, to code the text of all interviews, they were transcribed verbatim and read several times to gain a general understanding of the findings. Then, in each interview transcript, the sentences or words related to the objectives of the study were identified as a code or meaning unit. Codes with semantic similarity were then placed in a subcategory. Subcategories formed categories based on their similarity and relationship to each other, and finally, at a higher level of abstraction, categories formed the main theme of the study.

The rigor of the data was assessed using four criteria: credibility, dependability, confirmability, and transferability.[32] The researcher's long-term engagement with the findings throughout the study, conducting in-depth interviews with an individual method, maximum diversity of participants, full explanation with details about sampling method, data collection, analysis method, and peer review increased the credibility of the data. An accurate and complete description of the research environment, interactions and processes observed during the research, and the characteristics of the participants confirmed the transferability. Dependability was achieved using the peer check. In the confirmability of the data, a part of the interviews and their transcripts, along with the coding and the categories formed from it, was provided to a number of research colleagues and experts in the field of qualitative research, and the accuracy of the coding was confirmed by them.

### Ethical considerations

This study has been approved by the ethics committee of the Isfahan University of Medical Sciences (IR.MUI.RESEARCH.REC.1398.785 accessed on: https://ethics.research.ac.ir/EthicsProposalView.phd?id=121918). Confidentiality of information and the right to withdraw from the study were assured at every stage of the research, and finally, an informed consent form was signed by the participants. All methods were performed in accordance with the relevant guidelines and regulations.

## Results

Table 1 shows the characteristics of the participants. Participants' experiences of self-care in breast cancer prevention were divided into three main categories: the perceived concept of self-care in breast health, subjective challenges in preventive breast cancer self-care, and active management and breast health monitoring. Thus, the main theme of the study, namely the agency of women in self-care in the prevention of breast cancer, was formed [Table 2].

### The perceived concept of self-care in breast health

Participating women had a different understanding of self-care in breast health. The place of individual health in women's value system, women's knowledge of care services in the field of breast cancer prevention, and individual beliefs in the need for regular breast examinations had shaped their perceptions of breast health self-care.

#### *The place of individual health in women's value system*

Most participants stated that women give low priority to their health over other family issues. This prioritization was often due to the lack of time. The multiplicity of women's roles in the family has prevented them from making decisions about their health and self-care. Women prioritize the health of their children and other family members over their health and chores to their health care. "*I am caring for my two children in the current corona condition.Well, I really can't make time to care about my health."* (P32)

Furthermore, in families with financial deficiencies and limitations, these values and priorities delay the implementation of care measures. One of the service providers said: *"Well, screening is expensive anyway, especially now that the health of people has become of little importance in their well-being basket.In any case, health care has costs."* (P37)

In a few cases, prioritization has been done based on women's tendency toward fashion and clothing in society. *"I think the biggest obstacle for ladies is that now many of us are thinking about fashion and clothes, beauty, Botox, and so on. Now, these issues are important rather than breast cancer care*." (P38).

**Table 1: Sociodemographic characteristics of the participants**

| Code | Title | Age | Job | Education | Code | Title | Age | Job | Education |
|---|---|---|---|---|---|---|---|---|---|
| P1 | Healthcare provider | 36 | Academic staff | PhD in Reproductive Health | P20 | Client | 65 | Housewife | Primary school |
| P2 | Client | 35 | Housewife | Diploma | P21 | Client | 48 | Housewife | Primary school |
| P3 | Healthcare provider | 41 | Midwife in health center | Bachelor in Midwifery | P22 | Client | 58 | Housewife | Primary school |
| P4 | Healthcare provider | 55 | Academic staff | Ph.D. in Obstetrics and Gynecology | P23 | Client | 57 | Housewife | Primary school |
| P5 | Healthcare provider | 45 | Midwife in healthcare center | Bachelor in Midwifery | P24 | Client | 38 | Housewife | Diploma |
| P6 | Policymaker | 46 | Expert in charge of the middle-aged health unit | Master in Midwifery | P25 | Client | 33 | Housewife | Associate degree |
| P7 | Client | 48 | Staff | Primary school | P26 | Client | 46 | Housewife | Diploma |
| P8 | Client | 40 | Housewife | Primary school | P27 | Client | 34 | Employee | Diploma |
| P9 | Policymaker and service provider | 44 | Health center physician | MD (physician) | P28 | Client | 26 | Housewife | Bachelor |
| P10 | Healthcare provider | 48 | Surgeon | Medical specialist | P29 | Client | 21 | Housewife | Diploma |
| P11 | Healthcare provider | 58 | Oncologist | Medical specialist | P30 | Client | 22 | Housewife | Secondary school |
| P12 | Policymaker Healthcare provider | 54 | Oncologist, member of the Cancer Research Center | Medical specialist | P31 | Policymaker healthcare provider | 48 | Oncologist, Head of the Cancer Department , university faculty member | Medical specialist |
| P13 | Policymaker | 49 | Technical Deputy of the Provincial Health Center | MD (physician) | P32 | Client | 44 | Housewife | Bachelor |
| P14 | Client | 37 | Housewife | Primary school | P33 | Client | 38 | Employed | Bachelor |
| P15 | Client | 49 | Housewife | Primary school | P34 | Healthcare provider | 47 | Midwife | Bachelor |
| P16 | Client | 45 | Housewife | Primary school | P35 | Physician | 45 | Trained doctor of breast cancer screening unit | MD (physician) |
| P17 | Client | 44 | Tailor | Diploma | P36 | Policymaker and healthcare provider | 53 | Oncologist Director of the non-communicable disease prevention unit of the province | Medical specialist |
| P18 | Client | 53 | Housewife | Primary school | P37 | Healthcare provider | 52 | Breast surgeon | Medical specialist |
| P19 | Client | 48 | Housewife | Primary school | P38 | Client | 35 | Employed | Associate |

**Table 2: Subcategory, category, and the theme of the study**

| Subcategory | Category | Theme |
|---|---|---|
| The place of individual health in the women value system | The Perceived Concept of Self-Care in Breast Health | The women agency in self-care in the prevention of breast cancer |
| Knowledge of women about care services in the field of breast cancer prevention | | |
| Individual beliefs in the need for breast examination | | |
| Belief in the lethality of cancer | Subjective challenges in self-care | |
| Stigma caused by breast cancer | | |
| Attempts to have a healthy lifestyle with a focus on breast cancer prevention | Active management and monitoring of breast health status | |
| Seeking information on breast health care | | |
| Cyclic monitoring and reaction to changes in the breast | | |

Lack of self-compassion and self-awareness caused them not to consider prevention and health their priority. "*The culture of prevention has not taken root at all in all levels; it means that women do not consider prevention for their health and let it happen, and when one does not care about oneself, others have the same feelings about this person.*" (P34)

The position of personal health in women's value system plays an important role in the development of self-care

behaviors. Whether or not to take self-care in breast cancer prevention depends on this position.

### *Women's knowledge of care services in the field of breast cancer prevention*

Almost all participating women were unaware of prevention care services for breast cancer. Most of them were unaware of the provision of breast cancer education and screening services provided nationwide free of charge to women, regardless of their marital status. This lack of knowledge and awareness among women in the community about such services and centers was also expressed by the health policymakers of the province: "*As soon as I talk about cancer screening, they ask where they should go? I say the nearest health center to their house, where they have their child vaccinated … they say that they did not know about it …"* (P36)

While the free services to educate women in the community is a standard in the prevention of breast cancer, in most participants' opinion, the free services meant the low quality of the service! One of the healthcare providers stated: "*In the healthcare center, people think that every service that is offered free of charge is worthless and has low quality.*" (P37)

Paying and waiting for services is sometimes a sign that the service is valuable and of good quality. One of the participating midwives said: "*Now, because our services are free or cost little, people think that the quality is low, and this makes it somehow not valuable for people to refer to.*" (P34)

A limited number of participants were aware of such services in health centers; however, they considered these services to be for married women: "*I thought that the examination performed by a midwife or a doctor was for women who were married and had problems…*" (P32)

### *Individual beliefs in the need for regular breast examinations*

Participants had different beliefs about the need for breast examinations. Some of them believed that once the examination and the test results were normal, there was no need to continue screening and self-examination, and despite the initial screening procedures, they did not continue the care. In this regard, one of the women said: *"Well, when the examination or mammography result is normal, I believe there is no need to repeat these tests and examinations."* (P38)

Some women believed they were not at risk and, therefore, did not need to have a breast examination or self-examination. The narrations of most of the participants showed that BSE is not necessary as long as there are no clinical signs. According to them, if some clinical signs appear, a breast examination should be performed. Moreover, women sometimes had misconceptions about the clinical symptoms associated with breast cancer. To the extent that they believed that only breast pain was a sign of breast cancer, and so an examination was necessary for these conditions. *"Many of them think they do not need to be examined because they do not have a problem. It does not matter if it is not in pain. It is very important if it is in pain,"* said one surgeon. (P10)

Additionally, there was a belief that screening methods were not necessary among single participating women; therefore, BSE was considered for married women. One of the participants said: "*I remember one of my friends who once said that women should examine their breasts themselves; I said that I am single and I do not need to examine my breast.*" (P32)

People's beliefs about the need for BSE and Clinical Breast Examination (CBE) will play a significant role in breast health and caring behaviors. However, misconceptions, such as no need for screening in single women, can be a barrier to breast cancer prevention. The importance and priority of personal health in a woman's value system plays a significant role in their understanding of care services in the field of breast cancer prevention.

## Subjective challenges in preventive breast cancer self-care

People's subjectivity plays an important role in the preventive self-care of breast cancer. The belief in the lethality of cancer and the stigma of breast cancer were major subjective challenges that participants experienced in preventive breast cancer self-care.

### *Belief in the lethality of cancer*

From the participants' point of view, breast cancer was a deadly disease with a complex nature, which they believed would certainly lead to death. Despite advances in cancer treatment, the disease was still considered incurable by most participants. This belief led to the fear of dying from cancer and the rejection of screening methods, including BSE. The breast surgeons said, "*They do not believe they can be cured. So, the later they are informed, the later they enter that phase.*" (P37)

According to the participants, personal beliefs about cancer led to whether or not to have a breast examination. Those who believed that cancer was an incurable disease in nature refused BSE and considered death the inevitable end of the cancer. In this regard, some policymakers have emphasized the need to change the mindset of women in order to promote self-care in breast health: *".One part that can be very helpful if addressed properly is changing the basic belief that there is no effective treatment for breast cancer."* (P13)

Belief in the lethality of cancer was also extended to screening and diagnostic processes. Some of

the participating women refused to undergo any examination (BSE or CBE) or diagnostic procedure.

### *Stigma caused by breast cancer*

In most participants, breast cancer was seen as a stigma, and they, therefore, refused to talk to those around them about their disease. Concerns about this stigma affected participants' seeking information about BSE or CBE. One health policymaker said, "*We have so many patients who do not even let their family know about it.they do not even let their husbands know that they have cancer."* (P31)

Taboos are involved in stigmatizing breast cancer as the breast is a symbol of femininity. Therefore, the taboo of breast cancer will be a double problem because the word breast is a forbidden word in public in a society like Iran. One policymaker pointed to the ban on the use of the word breast even in public media: "*Unfortunately, in our society, many things are still observed traditional. For example, it is not easy to talk about breast cancer*." (P36)

Even talking about breast health in meetings attended by men is taboo. One of the healthcare providers said about her experience in educating families: "*What is wrong with pronouncing that word (breast) accurately in public now? Why, when we mention the word breast in a group where men are also present, women become embarrassed and lower their heads?!" (*P34)

Belief in the lethality of cancer has occupied women's minds. Moreover, cancer stigma is another concern. These two factors are subjective challenges for women to take care of themselves. If women can overcome them, they can take better care of themselves against breast cancer.

## Active management in monitoring breast health status

Attempts to have a healthy lifestyle with a focus on breast cancer prevention, seeking information in the field of breast health care, and cyclic monitoring and reaction to changes in the breast have formed the active management and monitoring of breast health status.

### *Attempts to have a healthy lifestyle with a focus on breast cancer prevention*

Proper physical activity, controlling weight in the right range, obsessing over a healthy diet, staying calm, and managing stress are some of the ways in which participants strive to have a healthy lifestyle focused on cancer prevention. This focus was based on women's awareness of known risk factors for breast cancer.

Walking and physical activities were mentioned by some of the participants: *"When the situation was good (referring to the time before the outbreak of the coronavirus), well, I always took a walk….I am still active."* (P33)

Most participants were aware of the role of stress on health and, subsequently, on breast health. Therefore, some of them tried to take care of themselves against this risk factor by controlling their stress and staying calm. *"In my opinion, stress has a direct effect on health; now, the stress of coronavirus has also been added. We have to control this stress somehow"* (P33)

The obsession with preparing healthy food was one of the points mentioned about breast cancer care: *"I pay attention to our nutrition; I mean the whole family. The food I make is healthy; I do not take food from outside, and I am obsessed with eating good food."* (P38)

### *Seeking information on breast health care*

Participants sought out health-related information in different ways, especially information on breast cancer. This information helped them identify some of the common risk factors for breast cancer. Information could be obtained from channels, such as people specializing in women health, media, and approved Internet platforms. About getting information through television networks, a woman said: *"I follow health news and TV health network programs."* (P33).

Mass media, including television, was known as the source of information for most participants. Another woman said: *"I watch science programs on channel four; not all of them, but for example, I watch topics related to women's health such as menstruation, examination, and nutrition."* (P38)

The midwives were another source of information for the women who were referred to them. *"I tried to ask most of my questions from a midwife in the healthcare center. I remember once she gave me the breast examination pamphlet."* (P33)

### *Cyclic monitoring and reaction to changes in the breast*

Utilizing the training and recommendations received in BSE and paying attention to and following changes in breast tissue were the measures that formed the cyclic monitoring and reaction to changes in the breast.

One woman described her experience with regular BSE: *"When I noticed that this examination was necessary, and I had to pay attention to it, I took it seriously and did it regularly."* (P38)

Paying attention to any changes in the appearance or tissue of the breast is one of the recommended items in BSE training. In this regard, one of the participants who had a history of fibrocystic changes in her breast stated: *"It was told us that some of these cysts could also be cancerous, and that is why any changes in the breast should be taken seriously."* (P33)

Follow-up of any changes in the appearance or texture of the breast was one of the actions taken by the participants. By regular and continuous BSE, women realized that they could monitor the health of their breasts and seek early detection in case of a problem. One of the women

described her experience: *"See! When I examine my breasts myself, it means that I am sensitive to the changes I feel. This can detect a possible problem much earlier in case of a problem." (*P33)

Women have a different understanding of the concept of self-care in breast health. They have to deal with existing barriers, one of which is the subjective challenges in preventing breast cancer self-care. Along with the perceived concept, coping with challenges and managing and tracking breast health status can reflect the agency of women in self-care in breast cancer prevention. In other words, the concept of self-care forms the evaluation and cognition of women of this concept as the first step in their agency. They encounter subjective barriers to breast health, and coping with them is a sign of advancing their agency. By creating individual responsibility, women's agency helps them to manage and monitor breast health status efficiently. In this way, women can have breast health care under their control. In this regard, the main theme of the study, namely, women's agency in self-care in breast cancer prevention, is formed.

## Discussion

The concept of self-care in breast health was one of the main findings. This concept implied the status of personal health for women. As shown in other studies, a woman's priorities and concerns can lead her to focus on other issues instead of focusing on cancer prevention.[33-36] Personal health is an important issue that should be considered in breast cancer prevention programs. Lack of time and neglect of the importance of one's health affect the continuation of personal health-related care.[24,26,34]

Paying attention to one's health has been expressed as one of the ideals of some women. Thus, women who wanted a perfect and flawless life took care of their health.[16] In fact, the amount of information available to women makes them actively involved in this process.[37] However, ignorance of preventive screening programs and services in the community causes them not to take action in this regard despite being eligible for screening.[38]

This study showed that individual beliefs determine the need for breast examination among the participants. Simon *et al*. (2017)[26] likewise showed that individual beliefs and social norms necessitate screening for older Chinese women. The notion of being healthy, having no clinical symptoms, and having no need for examination were among the beliefs that eliminated the need for BSE and CBE for women.[33,38] In another study in the UK, women with no history of symptoms rarely performed BSE.[39] Women are sometimes aware of the importance of examination and screening; however, based on their beliefs, they do not feel the need for examination, which can be due to the influence of the source of information.[40] On the other side, in some studies, women have considered screening the norm and have never believed that they should refrain from doing so.[41,42]

A subjective challenge in self-care was a finding that reflected women's beliefs and indicated that women had beliefs about cancer. In women's minds, cancer was a deadly disease, and breast cancer was a double stigma. Fear, as the result of the belief in unavoidable death or breast loss, can act as either a barrier or a supportive factor.[34,43] If the fear or anxiety is severe, it can prevent women from participating in self-care.[34] In some cases, severe fear has prevented them from receiving information and awareness about breast cancer.[44] In other words, it can be said that a deep belief in the lethality of cancer creates fear, leading to a negative attitude toward the power to control cancer. However, less degrees of fear or anxiety can act as a stimulus.[34] For example, in a qualitative study by March *et al*. (2017), although immigrant women living in Spain pointed to the link between cancer and death, they knew they could overcome this belief with early detection and effective treatment.[25] This fear, which has been seen in other studies, has different dimensions. Fear of being diagnosed with cancer, fear of pain, fear of radiation, and ultimately death were among these dimensions.[33,38,45] Belief in the lethality of cancer can prevent women from making any attempt at early detection or self-care and influencing the course or stage of the disease.[33]

Breast cancer was considered a double stigma for the participants. Women's fear of the unknown aspects of cancer and the belief that the only way to treat breast cancer is mastectomy, which will have adverse effects on their body image and feelings, along with the possibility of rejection by the husband, has intensified the stigma of breast cancer in women.[36] Health-related stigma is a social process or personal experience in which a person feels different, rejected, and ashamed because of a health-related problem. The individual may have this belief, or society has led them to believe it.[46] This stigma even prevented BSE in healthy Indonesian nurses.[47] In this regard, health professionals should be aware of these subjective challenges and women's cultural sensitivities in self-care programs. They should understand them, correct misconceptions and beliefs, and transfer positive messages about preventing and protecting against cancer.[34] To control the fear of the cancer lethality, it is recommended to include physicians, psychologists, and behavioral scientists in information campaign programs.[28]

One of the findings of the study was the effort toward a healthy lifestyle with a focus on breast cancer prevention. The fact that women are looking to change their lifestyle shows that they are aware of life-threatening factors and are ready to change undesirable habits.[16] In fact, changes in the current lifestyle, including reducing physical activities and increasing the prevalence of obesity, are known to be the most important risk factors for breast cancer.[45] In

this regard, national programs and policies should focus on prevention and take action by increasing awareness, reducing exposure to risk factors, providing information, and supporting the adoption of a healthy lifestyle. When women are aware of risk factors, they are more likely to engage in healthy behaviors.[7,48] If women do not know enough about the risk factors for breast cancer, they will have a negative attitude toward seeking breast health care.[49]

This study showed that one of the examples of active management and follow-up of breast health status is periodic breast monitoring through regular self-examination. Women's awareness of how to perform the examination and understanding of the importance of the risk that may threaten their health are involved in performing BSE. In other words, the perceived concept of self-care in breast health will be alongside active management and monitoring of breast health status. A study of Ethiopian university girls found that the main reason for not having BSE was unawareness of how and when to do it and not realizing the importance of BSE in the early detection of cancer.[50] In fact, the basis of breast cancer prevention in self-care programs is focused on BSE.[7] This issue is especially important in countries with limited resources for mammography.[51] Taiwanese women stated that due to medical limitations, the benefits of BSE play a key role in maintaining their health.[52]

As the findings showed, the three factors of the perceived concept of self-care in breast health, along with subjective challenges in self-care and active management and follow-up of breast health, formed the main theme of the study, which is women's agency in self-care breast cancer prevention. These three factors are interrelated. In the study by Peek *et al*. (2008),[36] participants stated they received help only in critical and emergency situations. Therefore, they did not perform preventive breast cancer self-care behaviors, which indicated the low priority of preventive care and implied the relationship between the perceived concept of self-care and active breast health management.

Self-care requires awareness, skills, and motivation. In fact, with increasing awareness through education, the self-care agency can be increased by determining and providing information to provide self-care requirements.[53] Protecting women against breast cancer is linked to staying healthy and monitoring the disease. Protecting oneself against breast cancer is associated with maintaining health and monitoring.[52] In fact, the agency in self-care is the ability to perform informed and selective actions emerging by assessing and understanding self-care needs. Then, one decides on appropriate measures to meet these needs, and in the implementation stage, they implement these decisions.

The study was conducted in the sociocultural context of Iran and heavily responds to the healthcare system in Iran that is radically different from other countries, and therefore, its generalizability is limited.

## Conclusion

This study provided a new understanding of the Iranian women's experience regarding self-care in breast cancer prevention. The experiences varied widely and demanded comprehensive attention. Awareness of these experiences is essential to adopt effective health promotion programs and strategies to support women in self-care for breast cancer prevention. Consequently, using the findings of this study is recommended for healthcare authorities/providers.

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### Conflicts of interest

Nothing to declare.

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