



# Perceived Barriers to Early Detection of Breast Cancer in Iranian Women: A Qualitative Content Analysis

Fatemeh Hossaini <sup>1</sup>, Mohammad Esmail Akbari <sup>2</sup>, Hamid Soori <sup>3</sup> and Ali Ramezankhani <sup>1, \*</sup>

<sup>1</sup>Department of Public Health, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>2</sup>Cancer Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>3</sup>A Safety Promotion and Injury Prevention Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

\*Corresponding author: Department of Public Health, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Tel: +98-9121096487, Email: aramezankhani@sbmu.ac.ir

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## Abstract

**Background:** Breast cancer is one of the most common cancers among Iranian women. The early diagnosis of this disease can decrease the mortality rate and promote patient survival.

**Objectives:** This study aimed at identifying the barriers to early detection of breast cancer in Iranian women.

**Methods:** In this qualitative study, which was extracted from a large research project, an exploratory sequential mixed-methods design was used, and conventional content analysis was carried out. Twenty-one participants were selected by purposeful sampling (ten health professionals and 11 female patients with breast cancer). Data were collected through in-depth, semi-structured interviews from July 2018 to June 2019.

**Results:** The content analysis revealed three major themes related to delay in presentation: individual barriers (limited/lack of knowledge, other life preferences, negative reactions to the disease, and belief in fate), environmental barriers (insufficient social support, inaccurate information sources, and alternative therapy recommendations), and organizational barriers (poor quality of health services, inadequate access to health services, and role of media in informing people).

**Conclusions:** Various perceived barriers, at different levels, play influential roles in the patients' early detection. Therefore, collaboration between public health professionals, healthcare providers, and policymakers seems necessary for reducing delays in presentation among women.

**Keywords:** Breast Neoplasms, Early Diagnosis, Qualitative Research

## 1. Background

Breast cancer (BC) is a common health problem around the world. Statistics show that 1,671,701 new cases of BC were recorded worldwide in 2012, and more than 500,000 deaths were attributed to this disease (1, 2). BC is a major cause of mortality and morbidity among women, especially young women in low- and middle-income countries. In these regions, a large percentage of patients are diagnosed in the advanced stages of the disease (3). BC is also common cancer among Iranian women, with incidence and mortality rates of 28.3 and 4.33 per 100,000 women, respectively (4). The incidence rate of BC has doubled in the past three decades (5). Evidence shows that Iranian women with BC are almost a decade younger than their peers in Western countries (6). Also, nearly 70% of Iranian women are in the developmental stages of cancer upon hospital admission (7).

The World Health Organization (WHO) suggests early

diagnosis of BC as a key strategy for controlling this disease through early identification of symptoms in symptomatic women and mammography screening in asymptomatic women (8). More than 70% of patients with breast cancer are diagnosed at stages 1 and 2 in developed countries, whereas only 20% to 60% of cases are diagnosed in early stages in low-to middle-income countries (9). There is no single international definition of "delay in presentation" in patients with breast cancer (10). However, it has been classified into patient and provider delays (11, 12). Patient delay refers to the time gap between the early identification of symptoms by the patient and the first visit for medical counseling. In most studies, this period is three months or longer in patients with breast cancer (13-15).

Previous studies on delay in presentation of women with BC indicated that 14% to 19% of women visited physicians for counseling in developed countries (16), whereas 42.5% of women in Iran (17) and 88.8% of women in Pak-

istan (18) visited physicians after a three-month delay. According to previous research, delay in presentation is a public concern in Asian countries, such as Iran (19), Pakistan (20), Malaysia (12), and Taiwan (21). Some studies have focused on a group of demographic, socio-physiological, and cognitive factors affecting delay in presentation, including age, marital status, educational level, individual and family history of BC, limited knowledge about the importance of early diagnosis, fear of surgery, and fear of mastectomy (22-24).

Delay in presentation  $\geq 3$  months has been reported to be associated with a lower survival rate, higher mortality, larger tumor size, higher involvement of lymph nodes, metastasis to other organs, and higher diagnostic and medical costs (12).

## 2. Objectives

Considering the cultural and social context of Iran, besides the central role of women in families and the significant burden of BC (25), this study aimed to identify the barriers to Iranian women's early presentation. We also resolved the weaknesses of previous studies (13, 15), which only relied on the patients' experience, and included participants with different experiences and specialties.

## 3. Methods

### 3.1. Study Design and Sample

This qualitative study was extracted from a large research project with an exploratory sequential mixed-methods design, conducted from July 2018 to June 2019. The Ethics Committee of Shahid Beheshti University of Medical Sciences (Tehran, Iran) approved the study protocol (ethics code: IR.SBMU.PHNS.REC.1397.042).

The participants were selected via purposeful sampling among health professionals and women with BC, who presented to the Breast Clinic of Cancer Research Center, affiliated to Shahid Beheshti University of Medical Sciences (Tehran, Iran). Maximum variation in terms of age, educational level, occupational status, and delay in the presentation was considered when selecting the subjects. The inclusion criteria were as follows: (1) willingness to participate in the study; (2) ability to speak Farsi; (3) being informed about BC; and (4) delay in presentation for more than 3 months. On the other hand, patients, who were diagnosed with psychological disorders by a physician, were excluded from the study. Finally, theoretical saturation was reached with 21 participants. The characteristics of the participants are presented in Table 1.

### 3.2. Data Collection

Data were collected via in-depth, semi-structured interviews and observation of non-verbal behaviors by the first researcher. All participants were informed about the objectives and methods of the study. At the beginning of each interview, the demographic characteristics were documented. The interview questions were as follows: "When did you notice a breast abnormality?", "What was your reaction?", and "What prevented you from seeking an expert evaluation?" Also, the participants were asked to "explain more" for a deeper understanding.

All patients were interviewed in a convenient room at the Cancer Research Center. An expert with experience and knowledge of the subject matter was contacted through phone calls by the first researcher, and the time and place of the interview were arranged by mutual agreement. The interviews continued for 25 to 60 minutes, and data saturation was reached when no new data was obtained from the interviews. All interviews were recorded using a voice recorder and transcribed verbatim by the same researcher, who conducted the interviews. The participants were informed that they could withdraw from the study at any time.

### 3.3. Data Analysis

The interview data were analyzed using conventional content analysis in MAXQDA version 10. First, the recorded interviews were transcribed word by word and then classified. The transcripts were repeatedly read to achieve an understanding of the text in its entirety. Next, the words, sentences, and paragraphs suggesting a concept or meaning related to the study, were extracted, coded, and assigned to different categories in terms of differences and similarities. Data analysis was performed based on the qualitative content analysis method, involving condensing, coding, categorizing, abstracting, and extracting themes (26).

To increase the trustworthiness of data, adequate time was allocated to data collection, sampling was performed with maximum variation, and the interviewer established a good relationship with the participants. Also, the researchers had long-term exposure to the data, and revisions proposed by the participants, colleagues, and research members were considered. Moreover, the research team tried not to allow their presumptions to influence the data collection and analysis and sought to provide a rich description of the data collection process, coding, and data analysis.

## 4. Results

Three themes and ten categories were extracted in this study. The categories were classified as follows: "lim-

**Table 1.** The Characteristics of the Participants

| Participant    | Age (Years) | Marital Status | Education Level | Employment/Profession  | Family History of Breast Cancer in Patient |
|----------------|-------------|----------------|-----------------|--|--|
| <b>Experts</b> |             |                |                 |  |  |
| 1              | 54          | Married        | Fellowship      | breast cancer surgery  | ...  |
| 2              | 54          | Married        | Fellowship      | Assistant Professor of surgery                               | ...  |
| 3              | 60          | Married        | Ph.D.           | Professor of Epidemiology                                    | ...  |
| 4              | 65          | Married        | Ph.D.           | Professor of Health education                                | ...  |
| 5              | 56          | Married        | Ph.D.           | Clinical Psychologist  | ...  |
| 6              | 65          | Married        | Ph.D.           | Associate Professor of Health education and Health Promotion | ...  |
| 7              | 63          | Married        | Ph.D.           | Professor of Health education                                | ...  |
| 8              | 55          | Married        | specialist      | Specially in community & preventive medicine                 | ...  |
| 9              | 58          | Married        | MSc             | social worker  | ...  |
| 10             | 36          | Married        | MSc             | Clinical Psychologist  | ...  |
| <b>Patient</b> |             |                |                 |  |  |
| 11             | 41          | Married        | Bachelor        | Housewife  | No   |
| 12             | 35          | Married        | Bachelor        | Employed   | No   |
| 13             | 47          | Married        | Bachelor        | Self-employee  | Yes  |
| 14             | 36          | Married        | diploma         | Housewife  | Yes  |
| 15             | 49          | Widowed        | diploma         | Self-employee  | No   |
| 16             | 40          | Married        | Middle school   | Housewife  | No   |
| 17             | 42          | Married        | diploma         | Housewife  | No   |
| 18             | 42          | Married        | Middle school   | Housewife  | Yes  |
| 19             | 35          | Married        | diploma         | Housewife  | No   |
| 20             | 43          | Married        | Bachelor        | Employed   | Yes  |
| 21             | 46          | Married        | diploma         | Housewife  | No   |

ited/lack of knowledge”; “other life preferences”; “negative reactions to the disease”; “belief in fate”; “insufficient social support”; “inaccurate information sources”; “alternative therapy recommendations”; “poor quality of health services”; “inadequate access to health services”; and “role of media in informing people” (Table 2).

**Table 2.** Classification of Theme and Categories

| Theme                          | Categories  |
|--------------------------------|---|
| <b>Individual barriers</b>     | Limited/lack of knowledge   |
|                                | Other life preferences  |
|                                | Negative reactions to the disease                                     |
|                                | Belief in fate  |
| <b>Environmental barriers</b>  | Insufficient social support   |
|                                | Inaccurate information sources<br>Alternative therapy recommendations |
| <b>Organizational barriers</b> | Poor quality of health services                                       |
|                                | Inadequate access to health services                                  |
|                                | Role of media in informing people                                     |

#### 4.1. Individual Barriers

The individual factors were related to the knowledge, awareness, attitude, belief, and personal and psychological characteristics of the individuals.

##### 4.1.1. Limited/Lack of Knowledge

The lack of knowledge about the screening methods, symptoms, and risk factors of BC was a common problem and a major barrier, according to the majority of the participants. In this regard, one of the patients with a delayed presentation of four months said:

*“I had no information about breast cancer, its nature, or its symptoms... I had never thought about breast cancer, despite my breast secretions and severe scratching.”*

Some participants did not pay serious attention to their breast changes due to temporary symptoms or a mass painless to touch. They attributed these changes to milk or fat cysts, hormonal changes of menstruation, menopause, or pregnancy and did not pay attention to them, despite having the symptoms; therefore, they did not benefit from a timely visit. In this regard, one of the participants with a delayed presentation of 12 months stated:

*“When I felt a mass in my breast, I neither felt pain nor any other symptoms. I didn’t know anything about it. I kept telling myself that it was only a cyst or non-harmful fluid and ignored the problem.”*

Also, a surgical fellow student suggested that the non-interference of breast changes in daily life activities could be the cause of patients’ delay in the presentation:

*“Patients can touch the mass, but their daily activities are not disrupted, and their appetite is not affected. . . Probably, if it was similar to other malignances of the digestive system, or made eating difficult, or changed the skin color, patients would visit physicians earlier.”*

#### 4.1.2. Other Life Preferences

The participants stated that they had other problems and commitments, which were more important to them than a timely physician visit. Also, they did not want to cause any concerns for their families, especially their children; consequently, they did not express or discuss their problems. In this regard, a patient with a five-month delayed presentation said:

*“My daughter’s wedding was approaching when I found out about it. I had many debts to pay. . . We have a lot of financial and familial problems. I could not say anything about my disease to my family, given its cost and burden.”*

#### 4.1.3. Negative Reactions to the Disease

Some negative psychological reactions, such as fear and denial, are among psychological factors, reported by the patients with symptoms of BC. A clinical psychologist said:

*“Some patients claimed that they had seen the mass and felt the symptoms before, but were too afraid to visit a physician. Fear is perhaps the most important factor in delayed presentation.”*

Fear of BC diagnosis was obvious among the participants. In this regard, a health education expert said:

*“Women are too scared to hear that they have cancer; they cannot accept it.”*

Moreover, fear of the consequences and problems of BC was reported by most participants. A clinical psychologist stated:

*“Fear of death, chemotherapy, mass manipulation, hair loss, mastectomy, social isolation, and other consequences contribute to delayed visits to physicians.”*

Some patients, prefer to deny it rather than solve it despite being aware of their disease; therefore, there is a delay in the use of medical services for these patients. In this regard, a surgical fellow student stated:

*“Interestingly, our biggest problem with the delayed diagnosis of breast cancer is when patients, who know about their illness, do not visit a specialist and deny their problem.”*

#### 4.1.4. Belief in Fate

Some participants believed that all events in an individual’s life are preset by God. They believed in divine destiny and accepted the disease without any follow-up, resulting in their delayed presentation. In this regard, one of the female patients said:

*“This is my fate and destiny in life. It happened to me, and I can’t do anything about it, because God has decided it for me; I obey Him and wait to see what happens.”*

#### 4.2. Environmental Barriers

Environmental barriers include sociocultural and economic factors, which play an important role delaying presentation, as reported by most of the participants. Since the breasts represent femininity, some women self-censor and delay their visit to physicians. Therefore, attention must be paid to the social and cultural beliefs of all social and ethnic groups.

##### 4.2.1. Insufficient Social Support

The lack of different types of support plays an important role in delayed presentation among some women. Several factors, such as financial problems, taking care of children, and not having a close partner or friend, were mentioned by women. Also, lack of cooperation and support from a partner and having a dysfunctional marriage were other barriers to timely visits.

##### 4.2.2. Inaccurate Information Sources

Almost all patients actively talked to their relatives, friends, and other important people in their lives about the changes in their breasts. However, the counseling and experiences of other people are not always useful and may promote wrong health behaviors. In this regard, one of the experts said:

*“Other people’s suggestions may be the cause of delayed presentation in patients, as they pay unwarranted attention to recommendations, which are made by unaware people, including neighbors, relatives, and other important people in their lives.”*

A patient described consultation with other people as the cause of her delay in presentation:

*“When I felt a mass in my breast, my aunt said it was just the breast glands, not a tumor. She said that it was an unimportant breast abscess. So, I ignored it and did not visit a physician.”*

##### 4.2.3. Alternative Therapy Recommendations

Another reason for the delay in presentation was the patient’s unrealistic hope about overcoming the disease by resorting to some traditional and spiritual beliefs about the treatment of BC. In this regard, a clinical social worker stated:

*“A cause of delayed presentation in some patients is that they resort to some alternative strategies, such as praying, spiritual practices, traditional medicine, and medicinal plants, which lead to delayed presentation. Some patients even use these options as the first-line treatment.”*

#### 4.3. Organizational Barriers

##### 4.3.1. Poor Quality of Health Services

The low quality of diagnostic and medical services is another barrier, which decreases the rate of timely visits, as mentioned by some participants. In this regard, an epidemiologist said:

*“The low quality of medical services decreases timely visits. People might have heard that some women, who visited a physician on time, underwent mastectomy, or passed away, or had a low survival chance due to errors in medical practices. This reduces the patients’ trust in the medical sector.”*

Also, a patient with a one-year delay mentioned physician’s misdiagnosis on mammography as the cause of her delay:

*“When I found a mass in my breast, I decided to undergo mammography. I presented the results to a physician, but she told me not to worry; so, I did not follow-up for more than a year until the mass became larger. I visited another physician, who made a diagnosis of breast cancer, she said that I was right the first time and that the last physician had made a wrong diagnosis.”*

##### 4.3.2. Inadequate Access to Health Services

Absent or inadequate insurance coverage, low number of female specialists, lack of high-quality diagnostic equipment and techniques, high treatment costs, and lack of easy access to services were among barriers to early hospital presentation. One of the experts said:

*“If we have high-quality medical equipment, insurance coverage, and screening protocols, most patients can be treated in the early stages of the disease.”*

##### 4.3.3. Role of Media in Informing People

The mass media, including TV and radio, can play important roles in improving public knowledge and overcoming misconceptions by providing accurate information. In this regard, a health education expert said:

*“The media should consider the fact that their main goal is not to meet their financial goals, but to increase social awareness. The content presented by the media should be interesting, logical, and refined. It should not exaggerate the importance of preventive services and undermine medical services.”*

Also, one of the patients said:

*“I was 38 years old when I heard on TV that mammography should be started at the age of 40, but nothing was mentioned about the diagnosis of younger women. After the cancer*

*diagnosis, I found out that I could have undergone breast ultrasound. If I had access to an accurate source of information, many of my problems would have been resolved.”*

## 5. Discussion

Based on the results of this study, various personal, social, cultural, and organizational factors are associated with women’s delay to visit healthcare providers/physicians in the event of any suspicious change in their breasts. Women’s lack of awareness about BC, especially the screening methods and symptoms, was the main reason for the delay in the majority of the participants. In studies by Abu-Helalah et al. (13) and Landolsi et al. (27), as well as qualitative studies by Elobaid et al. (11), Mbuka-Ongona and Tumbo (28), and Rastad et al. (19), the lack of knowledge about BC was the main reason for their delay in presentation. This finding highlights the role of knowledge in identifying diseases in early stages and emphasizes the necessity of women’s immediate visit to a physician. It is known that timely presentation to a hospital can largely decrease the negative financial, mental, and social consequences of the disease.

In Iran, there is a low level of health literacy about cancer, especially BC, due to the lack of regular interventional and screening programs for health education in the community, which has decreased Iranian women’s use of preventive and diagnostic methods for BC, especially self-examination and breast mammography. According to studies conducted by Saatsaz et al. (29) and Nourizadeh et al. (30) in Iran, 9.3% and 5% of the samples had high knowledge about breast self-examination as a screening method, respectively, indicating the low level of knowledge of Iranian women.

The analysis of interviews indicated that some women had misinterpretations about the BC symptoms and attributed them to other issues; therefore, the gap between the diagnosis of symptoms and visit to a physician was elongated. In this regard, a study by Lim et al. showed that women attributed the symptoms of BC to the lymph nodes, breastfeeding, and menopause (31). The present study indicated that negative thoughts about the consequences of BC resulted in women’s negative psychological reactions, such as fear and denial.

Fear can affect women’s decisions about their timely visit to physicians. Several studies (20, 22, 28, 32, 33) have reported that fear of BC diagnosis and treatment leads to the patients’ denial. Therefore, health specialists and healthcare providers should offer comprehensive and transparent information about the advantages of screening and highlight the importance of early diagnosis to help patients overcome their fear of BC and make informed and

timely decisions. According to results of the present study, women have some other priorities that cause them to delay their visits to physicians in Iran. These priorities are related to the cultural and social contexts of Iran, which place a great emphasis on the role and responsibilities of women in the family.

BC has some social consequences for the patients, such as divorce, spousal abandonment, and loss of femininity. Even spouses are persuaded by their families to leave their wives and re-marry, leading to women's isolation and self-censorship. Therefore, social support for patients must be increased by teaching their husbands and families (as the most important sources of support during treatment) about BC in order to prevent the patients' isolation and make their roles more prominent in the family and society (34).

According to the participants, the belief in fate and acceptance of the disease were barriers to timely hospital presentation. Therefore, specialists, policymakers, and healthcare providers can use religious discussions and gatherings as educational opportunities, since an accurate understanding of the disease in Iran's religious society can encourage women to undergo screening and early diagnosis. Similar to several previous studies (28, 35, 36), the present results showed that financial problems, lack of insurance coverage, and long-distance to medical centers were barriers to women's visits to physicians. Also, the cost of healthcare services prevents health behaviors and affects individuals' priorities, especially in low-income countries.

Overall, the lower level of patient's trust may be attributed to different factors, such as negative advertising in the media; inadequate time spent on listening to patients; the increased importance of financial goals in the patient-physician relationship; the possible medical, laboratory, and mammography errors; and the long waiting time for visiting physicians. These organizational factors have been also confirmed in previous studies (15, 19, 31, 37). Given the importance of medical errors, which impose additional costs on patients and the healthcare system, more attention must be paid to the performance of hospitals in accordance with the medical guidelines and instructions (38).

### 5.1. Conclusion

The present study showed that factors, such as insufficient knowledge about BC, fear, misconceptions, insufficient social support, other life priorities, and insufficient access to health services, were barriers to the timely presentation. It was also found that women's decisions about timely presentation were affected by ambiguous BC symptoms. These barriers seem to have various individual, so-

cial, cultural, and organizational aspects. Therefore, to reduce the patients' delay in presentation, all obstacles should be considered with respect to the cultural and social contexts by implementing effective interventions to encourage women's early presentation and diagnosis.

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### Footnotes

**Conflict of Interests:** There is no conflict of interest.

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