

How I Deal With Breast Cancer: Iranian Women Survivors Coping Strategies - Content Analysis

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Abstract

Background: Breast cancer is the most frequent cancer in Iran. Understanding the coping strategies employed by cancer survivors can provide valuable information for designing interventions to help them adapt to their problems produced by cancer and its treatment. This study aimed to explore the coping strategies of BC survivors in Iran.

Methods: This qualitative study was conducted in Mashhad, Northeast of Iran, between April to December 2021. 14 breast cancer survivors were selected through purposive sampling method. The data were collected using semi-structured interviews. Data were analyzed using conventional content analysis adopted by Graneheim & Lundman. MAXQDA 12 software, was used for data organization. Components of trustworthiness including credibility, dependability, confirmability and transferability were considered.

Results: The main themes which emerged from participants' data analysis were "behavioral coping strategies" and "emotional coping strategies". Behavioral strategies such as change nutritional habits, improving lifestyle, trying to stay active, seeking help for improvement of physical and mental needs and efforts to increase knowledge and literacy about BC. The psychological strategies were denying the breast cancer, psychological empowerment, spirituality and seeking help of family and relatives.

Conclusion: Our findings provide in-depth understanding of Iranian women's strategies for coping with BC. The qualified teams of psychiatrics, oncologists and reproductive health specialists need to contribute significantly to an upgraded coping of patients to cancer that could lead to higher quality of life.

Introduction:

Cancer is a complex disease, which affects patients in both, physical and emotional aspects. The diagnosis of breast cancer (BC) followed by medical treatment and additional life challenges can be associated with significant emotional distress (1, 2). BC is followed by physical, mental and social complications for the patient because breast is perceived a major part of a woman's identity, serving as a symbol of femininity, sexual desire, beauty and women's capacity for motherhood (3, 4).

Considering its high incidence, mortality rate and the influence on self-image, BC is considered a major stressor for women worldwide, with nearly 50–83% of them suffering a degree of psychological distress (5, 6). All of them have some sequelae, which result in negative feelings. The sequelae may include hair loss, infertility, weight gain or premature ovarian failure, and sometimes a restricted ability to move an affected arm, changes in body image, dyspareunia, reduced sexual desire and lower sexual attraction for the partner, and therefore, low self-esteem (7–11).

Some authors have posed coping as one of the factors that can determine well-being (12, 13). Coping strategies are the cognitive and behavioral efforts of individuals to interpret and overcome problems that generally include three types of problem focused, emotion-focused, and avoidant coping (14).

In the problem-focused coping strategy, individuals attempt to define and accurately assess the problem and try to catch the possibility of changing or dominating it to reduce the adverse effects of mental stress (15). Problem solving skills help to determine the source of a problem and an effective solution (16). The emotion-focused coping strategy entails the skill of forgetting the problem or enlisting emotional support from others (17). Escape coping has been recognized as an effective short-term strategy, but in the long term, it prevents psychological adjustment and increases symptoms of weakness such as depression (18).

The goal of coping strategies is to compensate or improve stressful situations by means of either the reformulation of objectives or the adjustment to a new and positively assessed situation (19). To return to their normal life, these patients need support to cope with and to meet their disturbed needs (20). For women with BC, coping is a strategy through which they perceive and handle various stressors experienced during the BC diagnosis and treatment process as challenges and threats, and such coping strategies are reported to influence psychosocial adjustment among BC survivors (21).

Generally, coping with diagnosis and treatment of BC is complex and multifactorial (22). Accordingly, the existing research literature emphasizes that BC is a bitter and unfortunate experience for women, and therefore understanding this issue and how patients adapt to this unfortunate experience from their perception, can help therapists and their families that with clear and correct understanding to do more effective treat and care for their patients (20). According to a grounded theory study explaining mastectomy adaptation experiences in young women undergoing chemotherapy, feelings of female identity loss were apparent in married women, along with anxiety and fear for family breakdown and social problem (23).

Coping with the disease is a dynamic process that is strongly influenced by characteristics of the individual and cultural factors (24) and may take different forms between and within cultural and religious traditions (25).

The choices of coping strategies have been found to be designed by national culture (26, 27). Since culture is influential on the attitude of people about health, disease and strategies for coping with the disease, perhaps the results of western studies are not applicable in other cultures including Iranian culture (28). Each woman employs certain coping mechanisms according to her own intellectual foundations to cope with such loss which is highly impacted by cultural and contextual factors (29).

Understanding the coping strategies employed by a particular group such as cancer survivors can provide valuable information for designing interventions to help them adapt to their problems caused by disease and its treatment (30). So, this paper aimed to explore the coping strategies of BC survivors in Iran with a qualitative method.

Materials And Methods:

Study design

We used a qualitative descriptive study to explore BC survivors' coping strategies in Iranian women. This method is suitable for the subjects that are focused on "What" questions about human interpretations and opinions. According to this method, reality varies from person to person and it tries to describe the phenomenon (coping strategy) accurately but attempts to interpret the findings without moving too far from that literal description (31).

Participant selection

Participants were recruited in study through purposive sampling method (32). They were recruited in various clinical spaces in Mashhad, a metropolis in northeastern Iran.

Data collection: Data were collected through in-depth, semi-structured, and face-to-face interviews. The interview guide sheet consisted of two groups of questions: main interview questions and probe questions. The interviews were conducted by the first author (EM) with a background in health research and clinical obstetrics and gynecology. Questions were about participants' coping strategies and disease management styles for BC include: "Explain your feelings when you find out you have BC? / Is there anything you think can decrease your risk of BC recurrence? / "What do you think are the conditions in your life that can reduce your BC recurrence? / How did you cope with the diagnosis of BC?" Exploratory questions such as "Can you explain more?" Or "What do you mean by this sentence?" Were also used to provide further explanation.

Interviews were continued until the point of theoretical saturation when no new code emerged from the interviews (33, 34). Interviews lasted approximately 70-90 minutes. The interviews were voice recorded and immediately transcribed verbatim Data was collected from April to December 2021.

Data analysis

Content analysis was used to explore and classify the self-reported coping strategies of participants as emerging from the original interviews adopted by Graneheim and Lundman (35). Transcripts of the initial three interviews were reviewed (EM, AT, AE, and RLR), with the objective of establishing a preliminary coding template that was used for subsequent analysis. All transcripts were then analyzed. Codes were generated from the interview data and systematically applied to identify categories and theme.

The process was iterative, reflexive, and interactive as continual data collection and analysis shaped each other. For example, code titles or descriptions identified based on earlier interviews were revised according to the data collected during subsequent interviews. Once all transcripts were initially coded, the team had reviewed the coding and elicited discussion about the coding strategy and attempted to achieve consensus to resolve coding discrepancies, and to merge individual codes into overarching themes. Data analysis was supported by MAXQDA 12 software.

Trustworthiness

In order to confirm the validity and accuracy of this qualitative research, four criteria presented by Lincoln and Guba, including credibility, dependability, confirmability and transferability capability were examined (34, 36).

In order to credibility, the researcher used to increase the number of interviews and interview with informant participants. The researcher's interest in the study subject, constant conflict with data, review of audit and qualitative research experts, and search for evidence and other articles were among the factors guarantee dependability. In addition, the authors discussed the coding and analyses throughout the research process and reached agreement with the final coding framework and themes, which made both data credibility and dependability possible (36). To ensure confirmability, a number of qualitative researchers were also consulted and the researcher tried to describe the method of study with details. To increase the transferability, purposive sampling was used and interviews were conducted with different participants with maximum diversity and direct quotations and examples were provided (37).

Ethical Considerations

Before the beginning of each interview, the objectives of the research, the reason for recording the interview, voluntary participation, confidentiality of information and the identity of the interviewer were explained and written consent was obtained. All information collected from participants was kept confidential and anonymous, i.e. instead of using their names, women were given codes to be used in the analysis. At the end of the interview, a gift was given to the participants for appreciation.

Results:

Participant's demographics: The characteristics of participants are shown in Table 1.

Table 1
Description of Participants (n=14)

Participants Characteristics	NO. (%)
Age	
30-39	4 (29)
40-49	4 (29)
50-59	6 (42)
Literacy	
Primary	4 (29)
Diploma/secondary	3 (21)
University	7 (50)
Occupation	
Housewife	7 (50)
Employed	7 (50)
Marital status	
Married	9 (64)
Divorced	3 (21)
Single	2 (15)

We reached theoretical saturation after 14 individual semi-structured interviews with participants. Overall, 492 codes were extracted and the codes related to the research objectives were finally divided into 8 subcategories, 3 categories (Tables 2).

Table 2
Theme, categories and subcategories emerged through data analysis process.

Subtheme	Theme
Psychological denial	Emotional coping strategies
Psychological empowerment	
Spirituality	
Seeking relatives support	
Nutrition modification	Behavioral coping strategies
Lifestyle improvements	
Maintenance of activities	
Use of specialized and consulting cancer support services	
Seeking for elevating health literacy	

Women engaged in numerous types of coping strategies to deal with BC. The two main themes within coping were behavioral and emotional coping strategies.

Theme 1: behavioral coping strategies:

Women engaged in a number of coping strategies that involved behavioral changes or maintenance of behavior, with the emphasis on prophylactic ... for reducing the risk of disease recurrence, seeking information, and self-care behaviors. This theme includes nutritional modification, lifestyle improvements, maintenance of activities, use of specialized and consulting cancer support services, seeking for elevating health literacy.

1a- Nutritional modification:

Most participants cited changing their diet as a way to adapt to BC by switching to a healthier diet and using higher quality foods: "I use yellow beef oil myself. It really works. As soon as I eat Indian rice and liquid oils, my body reacts. I feel very good when I use natural things. In the mornings I mix oatmeal, wheat germ, almonds, honey and water and eat. I got tremendous energy. I also use a lot of fruits and vegetables I said God, his miracle is really obvious. His miracle is in fruits and plants. My body comes back. I still believe the same. Very good (p8).

1b- Lifestyle improvement:

Almost all participants mentioned lifestyle improvement as one of their ways to cope with BC. A university teacher as one of participants said: "I tried to reduce my stress. I tried to lose weight but I did not succeed. I take drugs for effective prevention (of BC). This is what I did. But I definitely need to lose

more weight. Obesity is a risk factor. I tried to make my diet healthier and think about our diet. I must do not use everything (p10).

A housewife with high socio-economic status said:" To prevent it (BC), I reduced a lot of stress. I try not to get too involved in problems and not care about issues. I have nothing to worry about right now. I go for a walk. I go to yoga, listen to music and (p7).

1c- Maintenance of activities:

Women reported staying busy was a helpful coping mechanism. Maintenance of activities were used to regain a sense of control. Nearly all of the participants reported that business would distract them from their anxiety or anger. Whether it was staying busy with shopping, travelling or doing excessive activities in home. Women in our sample preferred to stay busy to keep their mind preoccupied:" I decided to be in the shop, doing clothes repairs, making cloths products, going out of the house. It was great for me and it answered a lot. Because when I stay at home, I'm greedy. I'm very good now (p8).

Another participant stated:" I traveled a lot. After my operation this year, I traveled 5 times. I travel regularly. I mostly go out of town. I spend time with my friends. I go mostly to parties (p11).

1d- Use of specialized and consulting cancer support services:

Some participants considered the importance of using supportive, counseling and professional services. In this regard, they expressed dissatisfaction with the lack of access or lack of such services and considered it as a necessary need of their peers: "The problem is that wherever you go, they only talk to you about physical problems. While someone like me needs encouragement and psychiatric support so that we can cope more easily with the disease" (p2)

But a few participants were satisfied with receiving these services:" It's very good here. They really take care of us like their own family. They also give us other advice on how to eat and about our problems. They have formed a group in cyberspace and they answer our questions at any time ..." (p5).

1e- Seeking for elevating health literacy:

Most of the participants mentioned that they used different sources of information about BC and the most appropriate and best ways to deal with it:" I had already found out what happens in the treatment process in the pages where there are several affected women" (p12).

Another participant about her information source for BC said: "Gradually, I found it is a curable disease by researching the web and everywhere and studying and inquiring from those who were infected. Now the path may be difficult. But finally it is curable" (p13).

Theme 2: Emotional coping strategies

Women also engaged in what can be termed emotional coping; coping strategies that aimed to reduce distress and minimize the psychosocial impact of BC. These strategies included psychological denial, psychological empowerment, spirituality, and seeking relatives' support.

2a- Psychological Denial:

In the interviews of many participants, their first reaction to BC was psychological denial:" I was very worried when I heard I had cancer. Even though I knew it was not very dangerous and it has better prognosis but still it was a taboo for me. I could not believe it. Even the word cancer was too heavy for me, even though I knew it was better than other cancers." (p10).

"When I heard that I have BC, I was very ill. I mean, I never thought I was in this world. I thought no, this is not for me. It may be for everyone but not for me." (p11).

2b- Psychological Empowerment:

Several women reported a sense of gratitude toward their experience with BC treatment and being a BC survivor. Many reported feeling grateful because their BC had given them the chance to appreciate life, value their family, and feel close to God.

Many reported expressing positive emotions toward their families and reassuring their families that they were fine, although they truly felt the opposite:" Now I go to parties and wedding parties. I will not even put on wig. Because I say this is fashion. Everyone says how beautiful. They encourage me and I do not feel any discomfort. I have no deficit and I am following the same routine as before." (p1).

Some participants even controlled their negative thinking about the disease:" I will not allow anyone to draw a black picture of my illness. This is my attempt. When I come for chemotherapy, I listen to music and read books. It is very effective to be able to control yourself. Do not let anyone disappoint you." (p6).

I think the most important factor for coping with any disease is the patient herself. That is, she must first want to accept the disease. Nothing can be done about what happened. But for the future, we can do preventions like annual screens, laboratory tests, you will be happy every time you test and see that everything is OK. Put yourself in a position to try to reduce the risk. To prevent metastasis, exercise and a quiet life are what you can do to help yourself. And that this must be no longer a big part of your life. I mean, deal with this disease in such a way that it is a thing that happened and now I want to live. A life with low stress and high peace and joy. Maybe if we observe all these, this disease will gradually disappear in your life. That means sometimes you forget you have the disease. Maybe if you do all these, this disease will gradually disappear in your life. That means sometimes you forget you have the disease. Because you accept it. I did not let BC to be the focus of my life and it went to the sidelines." (p10).

2c- Spirituality:

All participants regardless of their religious background dealt with cancer as something coming from God that they had to accept because they had no power to change the situation. A 50-year-old divorced lady, said: "I think that everyone has a lifetime. What am I in the world? I do not think at all about the recurrence of disease and what to do. I do not have a husband. I'm thinking that when my son and daughter-in-law leave my house, I will make wallpaper, paint, change my curtains, travel and.... Everything is in the hands of God." (p2).

The majority of women reported they relied on their religiosity to help them cope. Women relied on religious practices, such as reading the Bible or praying to help them when they experienced the onset of negative emotions: "When I realized that I have BC and had to have surgery, I then went to the shrine of Imam Reza and asked him to give me strength. I was crying a lot. I said (to Imam Reza) give me the strength to go to the operating room. How difficult is this divine exam Imam Reza? But do something, I come out of this exam proud. I talked a lot with Imam Reza there and recited the prayer of "Tawassul" and I became stronger. Then I went to operation room myself..... You have to think it is God's will. God wanted us to be like this. God's destiny cannot be countered." (p9).

2d- Seeking Relatives Support:

Women reported many relied on their family as a source of support. Several women mentioned that they received support from their husbands or children during chemotherapy.

Women would mention family was a source of fortitude, whether it was through a husband or daughter or neighbor or relative: "My mother-in-law is very careful of me, she comes here and cook for me. It has a great effect. A kind and companion friend. It makes me very happy." (p2).

A woman experienced the support of her family through this process: "Thank God, God gave me a lot of patience. My husband was very helpful. My children got along very well with this problem and my mother was very supportive with me." (p11).

But one of the participants did not receive such care from her relatives: "My friends, neighbors came to see me, talked to me, assured me, my neighbors prepared food for me, but my daughter in law did not do it for me. In these difficulties, I realized that strangers are better than my family." (p9).

Discussion:

The present qualitative study was performed to explore the coping strategies of Iranian women with BC. According to the results of this study, Iranian women resort to psychological and behavioral strategies to adapt to the disease and its treatments. Behavioral strategies are inclusive of change nutritional habits, improving lifestyle by eliminating or modifying factors that are perceived to trigger BC, trying to stay

active and continuing past routine activities, getting help from government or private support systems for physical and mental needs and efforts to increase their knowledge and literacy about the disease process and its treatments after diagnosis and chemotherapy to combat the disease. In the psychological strategies, participants mentioned resorting to denying and not believing in the diagnosis of BC, using various methods of psychological empowerment, spirituality and seeking help from religion and religious beliefs, and finally relying on the help of family and relatives.

Behavioral Coping Strategies:

Many participants in the present study stated that they tend to modify their lifestyle and diet to correct the unhealthy lifestyles in the past or to prevent recurrence of the disease. Qualitative studies of BC survivors in other countries have reported changes in nutritional habits and styles in order to maintain health and reduce fatigue caused by the BC. In most studies, using a low-fat diet and consuming more fruits and vegetables and avoiding high consumption of red meat have been mentioned as beneficial changes in diet. The results of these studies are consistent with the results of the present study (38–40).

As mentioned above, another way to deal with BC was to change the lifestyle and correct unhealthy lifestyle habits. In this regard, various ways such as increasing physical activity such as work at home, walking, going to gyms and hiking were mentioned. Similar results have been reported in other qualitative studies (41). In a qualitative study on Chinese-Australian BC survivors, participants reported that to exercise kept negative thoughts away from them. Also, the participants reported doing Tai chi (thought to be very useful in combatting depression), walking, and using weight machines at the gym for coping with their disease (38).

In a qualitative study of British cancer survivors, most participants were aware that physical activity is good for general health and some of them stated the benefits of physical activity definitely relating to cancer and other chronic conditions, such as cardiovascular disease (42).

Also, most of the participants of a qualitative study on cancer survivors in Taiwan, supposed that cancer reflected their past unhealthy lifestyles. To avoid problems, they attempted to adjust their lifestyle, change their unhealthy diet habits, increase physical activity, abstain from tobacco and alcohol, and manage their emotions (43).

Another coping style with BC in the present study was to try to return to routine activities and lifestyle. Participants stated that they try to do all the housework themselves, such as cooking, making pickles and jams, shopping, and even going to a sewing class, walking, participating in public activities, and attending at their work place and doing their job responsibilities. In fact, by doing these activities, a sense of control over the current situation is created for them.

In other qualitative studies, BC survivors were willing to return to normal activities. They believed that activities related to home, job duties, self-care, child care and participation in social activities lead to

better adaptation to the disease and treatment complications. Also, the person feels life satisfaction, increases the quality of life and even improves her body image (44–46). An important finding in Yamani Ardakani (2019) on Body image and its relationship with coping strategies in BC survivors, was that employed and educated women with BC had better body image compared to the others (47). Also, Cancer survivors in Taiwan to improvement in physical and emotional wellbeing, stated that participating in social activities resulted in greater satisfaction with life (43).

Another strategy used in the present study to cope with BC was to use of specialized and cancer support services. Access to such services reassures the cancer survivors and reduces concerns about the disease and its treatments. However, in most cases, these services only cover patients' physical problems, and counseling on patients' psychological issues remains unspoken and unresolved. In confirmation of the results of the present study, other qualitative studies also expressed the need for physical care and psychological counseling centers for cancer patients and people who have undergone hysterectomy (48–50). However, for some patients or survivors, geographical access to such services is limited (46). Positive support, especially from family, friends, and healthcare professionals, helped women with BC deal with the uncertainty they felt after the diagnosis (44). In a mixed method study about coping strategies during BC in Latina women, the participants expressed the need for an online community with doctors and program references in their areas and the ability to interact with other women who are going through a similar process or who have already gone through it (51).

Another way to cope with BC was to search for more information about the disease, its course, complications, treatments, medical and counseling services. However, one of the participants preferred not to learn much about the disease and its course. Because she thought that getting more information would increase stress and make her feel out of control. But, other studies have shown that being aware of one's current condition increases cognitive and behavioral adaptation and lead to resistance against stress, redirect inappropriate coping activities, facilitate the problem-solving process, and result in the ability to tolerate increased levels of stress(46, 52). According to a qualitative study on Latina women, online resources may be a useful way to disseminate knowledge and awareness and to provide a unique support system (51). The results of the present study and smith et al (2017) study on British cancer survivors, showed that little information was given from oncology health professionals on how to achieve adequate levels of physical activity and many participants sought information via other methods, such as, media and websites (42). Also, Khakbazan et al (2014) reported difficulty in accessing health care services for a number of reasons such as distance and lack of knowledge of breast clinic locations and structural factors related to the health services such as the long process of admission, and challenges with referral systems were identified as factors that delayed timely medical help (53).

Emotional coping strategies

Many of the participants stated that in the early stages of diagnosis, they could not believe that BC had happened for them. In other studies, the experience of the denial phase in the early stages of diagnosis has been reported (41, 53, 54). A study on quality of life in Iranian BC survivors, reported that when

participants are faced with BC diagnosis, they will experience a variety of emotions such as fear, shock, disbelief, sadness, hostility, anger, depression, anxiety and other feelings of psychosocial distress (55).

In the present study, different methods of psychological empowerment were used to cope with BC. For example, wearing nice clothes, using wigs and special bras, not wanting to interact with negative people, positive thinking and focusing on the positive aspects of personal life. Some participants even encouraged their disappointed families. Our findings have been supported with other qualitative studies (23, 46, 56–58). For example, Yamani Ardakani (2019) and Hajian (2016) in qualitative studies on BC survivors, stated that the most important strategies for coping with BC were problem-focused coping strategies, acceptance and positive and constructive thoughts(44, 47) .

In this study, the patients believed in their disease as a spiritual fate, a test conferred on them by God. They believed that the disease and its cure was in the hands of God and by the will of God, and in this way they found peace. There has been a positive role of prayer and trust in God in the present study and other qualitative studies that have been done in different parts of Iran on women with BC (20, 23, 55, 57, 58). In a qualitative study using the phenomenological approach to describe the ways Iranian women coped with BC-related complications and changes in their lives, most of the participants believed that they get cancer because it was God's will; in some cases, the patients believed that "the disease came from God; we cannot prevent it, and it does not matter what we do."(58). In fact, the use of prayer and reliance on a transcendental power has been reported in qualitative studies in other countries with different religions (24, 38, 59–61).

Another method of coping with BC in the present study was to rely on the help and emotions of family, relatives, and friends. The most common people who helped participants to adapt during diagnoses and treatments and complications of illness and treatment were family members, especially spouse, mother, neighbors, and friends. Most of the participants stated that they had noticed the depth of empathy and loyalty of their spouse after BC diagnosis, and some mentioned that their spouse had changed his behavior and he became kind and good-natured unlike the past. This has been confirmed in other qualitative studies in Iran on women who have had a hysterectomy or BC. Especially the role of the spouse in adapting women to diseases is very critical and important and improves mental health and quality of life (20, 23, 55, 57, 58, 62, 63). A meta-ethnographic synthesis on help seeking behaviors of women with BC, revealed that family and other relatives tried to provide emotional and financial support for women, as well as to reassure, encourage, and advise women to seek treatment. In some cases, the pressure bought to bear from others (spouse, relatives and colleagues) resulted in medical seeking (53). Studies in other countries have also reported the key role of the spouse in adapting to BC. A study about spousal support strategies for patients with BC in China showed that there was a role change for the husbands, from spouse to protector and caregiver, upon diagnosis and during treatment, and a return to the role of spouse following the completion of treatment (51, 64).

A challenge for women coping with BC was the feeling of sympathy, compassion and some inappropriate behavior of friends, relatives and wider society. Participants viewed compassionate behaviors towards

them, accompanied by exaggerated affection from relatives or friends as a barrier to their coping with the disease and as creating a distressed feeling. They did not believe they deserved such sympathy and compassion but ordinary behavior without exaggeration. They believed inappropriate behavior would collapse their peace and worsen their condition. Behavior towards people who identified them as a person with a dangerous disease resulted in their social isolation. Some participants did not describe the role of some relatives, such as their sister or daughter-in-law, as supportive and friendly. They were forced to stay away from them because of their negative thoughts and negative words. Similar results have been reported in other studies (24). Fasihi Harandi et al (2010) reported that most of their participants kept the illness as a private issue because they did not like negative and pitying reactions from family, friends, colleagues and society (55).

In this study we found that participation in homogeneous groups were another way that affected the participants' coping response. The existence of support groups caused the woman to discuss her problems and experiences openly and created a supportive atmosphere within which to exchange knowledge and awareness concerning the resources and facilities. This sort of interaction and mutual communication as well as formation of support groups and exchanging successful experiences was shown to be helpful for the patients. A systematic review on Peer support interventions for BC highlights peer support interventions for improving quality of life and reducing distress among BC patients (65). Peer support helps the patients by providing hope and a way to cope, replaces other social roles that are weakened by disease, and offers understanding through shared experiences (21, 46, 66). As there is no organized group for BC survivors in Iran, the necessity to establish such groups seems essential.

One of the strengths of the present study is to explore the emotional and behavioral coping strategies with BC in survivors. While in other studies that have been done so far, most of them have focused only on the aspect of psychological coping styles. Second, the present study was conducted in Mashhad, where patients are usually referred from other cities and it was possible to select participants with maximum cultural diversity and different socio-economic level. The limitation of the present study was that it was conducted in the Iranian-Islamic community and can only be generalized to similar cultures.

Conclusion:

Our findings provide in-depth understanding of Iranian women's strategies of coping with BC. The majority of their coping strategies were psychological and behavioral strategies. Behavioral strategies such as change nutritional habits, improving lifestyle, trying to stay active, seeking help from government or private support systems, for physical and mental needs and efforts to increase their knowledge and literacy about BC. The psychological strategies were denying the disease and not believing in the diagnosis of BC, using various methods of psychological empowerment, spirituality and seeking help from religious beliefs, and finally seeking help of family and relatives. Understanding the coping strategies of women diagnosed with BC could help to manage this disease and to provide physical, psychological, and social support. Despite the fact that health care systems provide services to improve the quality and quantity of life of patients. However, these services are limited to the physical problems of

patients and their psychological problems are not taken into account and this leads to severe psychological effects on the survivors. The trained teams of psychiatrists, oncologists and reproductive health specialists need to contribute significantly to an upgraded adaptation of patients to cancer that could lead to higher quality of life. Also, Interventions to improve cancer stigma should be developed, and social support and coping strategies for BC survivors should be considered in clinical oncology settings.

Declarations:

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Authors' contributions

EM, AT and RLR were the major contributors to the overall study conception and design. The interviews and data collection were performed by EM. Data analysis and initial draft were done by EM, AT, AE, FH and RLR. RLR supervised the research process. All authors analyzed and interpreted the data. The manuscript was drafted by EM and revised critically in consultation with all authors. Also, all authors read and approved the final manuscript.

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All data generated or analysed during this study are included in this published article.

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Consent to participate:

Written signed informed consent was received from each study participant.

Competing interests:

The authors declare that they have no conflict of interest.

Consent for publication

NA.

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