

RESEARCH ARTICLE

Coping Strategies and Experiences in Women with a Primary Breast Cancer Diagnosis

Sepideh Hajian^{1*}, Esmat Mehrabi², Masoomeh Simbar¹, Mohammad Houshyari³

Abstract

Background: Women with breast cancer experience problems in multiple aspects of their lives, but applying effective strategies can result in enhancing their quality of life and their psychosocial adaptation to the disease. However, there is little information about the strategies that women use to cope with complications associated with their experiences following a breast cancer diagnosis. **Objectives:** The aim of this study was to explore the experience of coping behavior and the main strategies that women use in dealing with a breast cancer diagnosis. **Methods:** This study was conducted according to a qualitative phenomenological design to investigate women's experiences in living with breast cancer and the related complications and how they cope with these issues. Purposive sampling was used for recruiting participants with breast cancer, and data collection was conducted by semi-structured, in-depth interviews with 22 patients. The transcribed interviews were analyzed using Van Manen's thematic approach. **Results:** The age range of the women was 32-68. Most were married and received adjuvant therapy (i.e., mastectomy surgery and chemo-radiation). Three dominant themes that emerged from the interviews were emotional turmoil, avoidance, and logical efforts. **Conclusion:** The findings highlight the importance of addressing psycho-oncology intervention programs to address the unmet psycho-social and palliative care needs of patients suffering from breast cancer.

Keywords: Breast cancer- psychological adjustment- coping behavior- skill

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Introduction

Background

Worldwide, breast cancer is the most common cancer among women (DeSantis et al., 2014). According to Globocan's estimation, it is the second most common cancer worldwide (1.7 million cases, 11.9%), but it ranks fifth as the cause of death (522,000, 6.4%) due to the relatively favorable prognosis (Ferlay et al., 2015). Breast cancer ranks first among the 10 frequent cancers among Iranian women, and, unfortunately, Iranian women experience breast cancer at least one decade earlier than younger than women in developed countries (Kolahdoozan et al., 2010). Nevertheless, Iranian women mostly tend to delay screening tests and treatments of breast cancer due to a lack of knowledge, fear of cancer diagnosis, not seeing themselves at risk, and concern about getting incorrect diagnoses by physicians (Rastad et al., 2012). Also, it should be considered that the survival rate of women with breast cancer has increased due to early detection and effective treatments (Chopra and Kamal 2012; Knobf et al., 2012; Khalili et al., 2013, Koch et al., 2013; Matsuda et al., 2014) and, according to the findings of various studies, the numbers of individuals who survive cancer are going to double by 2030 (Campbell et al., 2011;

Zucca et al., 2012).

A diagnosis of cancer is associated with psychological effects (Crist and Grunfeld, 2013), at least one-third of cancer patients suffers from psychological problems, and women and young people are at higher risk (Khalili et al., 2013; Ghaffari et al., 2014). Researchers have found that most common concerns of breast cancer survivors are the worries related to their health status, womanhood, job situation, their general roles in the family, living with uncertainty, and the probability of death (Ziner et al., 2012; Anusasananun et al., 2013; Leal et al., 2015). Generally, breast cancer is a significant stressor in women's lives, and many of these patients suffer from some psychological problems, such as anxiety, depression, fear of recurrence of the cancer, and worries about their family and future, so they need appropriate intervention (Joulaei et al., 2012; Khalili et al., 2013; Abdollahzadeh et al., 2014; Ghaffari et al., 2014).

Physical changes and psychological problems verify the value of quality of life in these patients (Bagheri and Mazaheri, 2015). The quality of life of these patients may be affected by the way the patients choose to adjust to their situations (Taleghani et al., 2008; Chopra and Kamal, 2012; Joulaei et al., 2012).

Breast cancer is associated with enormous

¹Department of Midwifery and Reproductive Health, Faculty of Nursing and Midwifery, ³Department of Radiation Oncology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, ²Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran. *For Correspondence: hajian74@yahoo.com

psychological problems that patient must deal with through coping strategies (Casellas-Grau et al., 2014). Coping strategies can influence treatment outcomes and survival rates of women with breast cancer (Khalili et al., 2013), and coping is accepted to be one of the core concepts in the context of quality of life (Tuncay, 2014). It is worth mentioning, the use of coping strategies among women with breast cancer is different and depends on several issues, such as the stage of the cancer, type of therapy, the individual's culture, and perceptions about disease. These are considered as issues that may affect the strategies patients use to psychologically adjust to their condition (Cebeci et al., 2012; Hopman and Rijken, 2015). For example, most of people in Iran's society are likely to have a fatalist viewpoint regarding any new situation in their lives due to their religious views. Nevertheless, women have significant needs for supportive care that are often unmet, mostly including information needs and unmet needs in the areas of their physical wellbeing and everyday lives (Abdollahzadeh et al., 2014). It has been reported in other studies that Iranian cancer patients mentioned that they experienced many unmet needs, so it is essential to implement appropriate intervention programs with additional supportive care services for these patients in Islamic countries (Rahmani et al., 2014).

The growing number of breast cancer survivors has provoked the medical community to focus research on issues related to the quality of life among cancer survivors. Identifying breast cancer survivors' cancer-related experiences and the coping strategies they use is important in developing and appropriately targeting interventions for these patients to optimize health promotion in survivors.

In order to explore the women's experiences confronted by breast cancer diagnosis, we used a phenomenology research approach. It helps the researcher to identify and understand the "essence" of human experiences concerning a phenomenon and "lived experiences," as described by participants within their everyday lives (Creswell, 2013). The aim of the present study was to use a qualitative phenomenological approach to identify living experiences and coping strategies used by women who have survived breast cancer.

Methods: Present study was aimed to describe coping strategies, which women with breast cancer employed to adjust with cancer related problems. A qualitative phenomenology design was used in this study to explore the living experiences, coping behaviors, and main strategies applied by the patients to adjust to breast cancer. A phenomenological approach was selected because it defines living experiences, tries to interpret the meaning of phenomena, and enhances our perception of human experiences (Streubert and Carpenter, 2011). Research with a phenomenological approach aims to capture the main concept of a phenomenon and extract a description of the living experience of the phenomenon (Van Manen, 2015). Using the hermeneutic phenomenological approach in this study enabled us to emphasize women's life experiences through their description of their experiences about cancer-related challenges and the coping ways they used to adjust to the complications. Van Manen (2014) proposed six research activities as a methodological

structure to guide hermeneutic phenomenology research, and these activities were used in this study. They are:

- 1- Turning to the nature of the lived experience.
- 2- Investigating lived experiences.
- 3- Reflecting on the essential themes.
- 4- Describing the phenomenon through the art of writing and rewriting.
- 5- Maintaining a strong and oriented relationship with the phenomenon.
- 6- Balancing the research context by considering the parts and the whole.

In present study (as a first activity), the research question was formed when the researcher was overwhelmed by the problems and the unmet psychological requests that a young woman faced who was a relative of the researcher. In the second activity, the related literature was studied, and interviews were arranged with women who had experienced breast cancer and its related complexities. In the third activity, we used Van Manen's thematic analysis to recognize the conceptual meaning of the lived experiences of women with breast cancer-induced complications and the ways they chose to cope with those complications. In the fourth activity, we provided a comprehensive report of the results of the present study. In the fifth activity, we tried to have continuous reviews of the research question and refrain from relying on abstract theories or classical concepts. In the final activity, we concurrently addressed the whole context based on each component's importance, and we tried to have an inductive-deductive viewpoint and investigate the relationship between meaning units, the main themes, and sub-themes by considering the research question.

In this study, first, the research question was shaped based on the aim of the study, i.e., "What is the meaning of the adjustment from the patients' points of view, and what coping behaviors are used by women to adjust to breast cancer?" For this purpose, purposive sampling was conducted among women who met the study's inclusion criteria, i.e., being a woman with a confirmed histological diagnosis of primary breast malignant tumor who had finished the adjuvant therapy within the 3-6 months prior to the study and who is followed up for disease control by her physicians in the Radiation Oncology Clinic at Shohada-e-Tajrish Hospital (governmental center) and a non-governmental center for cancer treatment in Tehran, Iran. Since the first center is one of the most specialized and the main educational center of cancer treatment in Iran, most of the patients who are treated for cancer are referred from different cities in Iran for cancer therapy. In addition, to obtain the maximum amount of pertinent information to address the research question, we included the maximum variation of the participants' demographic characteristics (Polit and Beck, 2013). The exclusion criteria were women who had metastatic breast cancer, who were terminally ill, and who were mentally ill.

Data were gathered using semi-structured, in-depth interviews with 22 eligible patients by the main researcher. The participants included 16 women who had mastectomies and 6 others who had lumpectomies. The interviews were conducted in a quiet room in the radiation oncology wards at the two hospitals, and the researcher interacted with the

participants by using open-ended questions and by asking permission from the patients to record the conversation. Each interview took approximately 45-60 minutes. At the beginning of each interview, the woman was asked to explain her experiences from the point at which she first suspected that something might be wrong. Then, the researcher guided the direction of the interview into the following topics, i.e., the woman's idea about the meaning of adjustment to breast cancer, what comes to the woman's mind when she hears the words "adjustment to breast cancer," and the woman's experience with breast cancer and her coping strategies and adjustments. After the patients addressed the above topics, they were asked the following questions to get additional data and information: "Would you explain more about this?", "What do you mean?", and "Would you please give an example in order to help us accurately understand your opinion?" The data collection in the qualitative research essentially was based on the ideologies of data saturation, because numbers are not important in ensuring adequate samples since the aim of qualitative sampling is about the depth of the data, not with tentative generalizations (Polit and Beck, 2013). The researcher continued to collect data until the analysis no longer indicated anything new or different about the samples. Nevertheless, phenomenology does not look for sameness or repetitive patterns. Rather, the goal of phenomenology is to determine what is singular, and a sin-gular theme or concept may only be seen once in research data (Van Manen, 2014). In this study, the researcher attempted to continue the interviews until nothing new was obtained from them. At the end of each interview, the researcher provided a short report (field notes) that indicated important points from the interview (such as non-verbal communication).

Ethics approval was obtained from the Ethics Committees of Shahid Beheshti University of medical sciences, Tehran, Iran. All participants were informed about the purpose of the study, and written consent was obtained from the women who were willing to participate in the project prior to interview, including consent to be audiotaped. We were also aware we would be stimulating participants to explain the cancer related experiences and memories, which might affect them spiritually. We tried to avoid this, through managing the interview by appropriate question as far as possible.

The interviews were transcribed and analyzed using Van Manen's thematic analysis approach. Data gathering and analyses were conducted simultaneously, and, as the initial coding was done, it was decided to conduct some subsequent interviews. (Four subsequent interviews were conducted.)

The transcribed interviews were analyzed according to activities 3-6 of the methodology of Van Manen. According to activity 3, each transcribed interview was considered as a whole and was read several times. Then, the short description obtained of the entire interview was summarized in a few sentences or paragraphs (holistic thematic analysis). Then, the thematic statements were isolated using a selective approach. For this reason, the transcriptions were read constantly to recognize the statement(s) that seemed particularly essential and that

could reveal the core concepts about the experiences of the women in adjusting to breast cancer. These statements were highlighted. After extraction of the general themes, the similar themes were clustered.

Then, in line with activity 4, we used the art of writing and rewriting to bring the studied phenomenon into written words. In activity 5, the researchers tried to gain a deep understanding of the phenomenon. In activity 6, using the hermeneutic method, the researchers repeatedly referred to the whole and the parts of the text to analyze how they were connected. Then, the extracted themes were altered and reconstructed according to their similarities. In addition, MAXQDA software was used for data management.

Five criteria that Guba and Lincoln identified for evaluating qualitative inquiries, i.e., credibility, dependability, conformability, transformability, and authenticity, were used in this study for data management and to increase the trustworthiness of the qualitative data. The researcher determined the trustworthiness of the attained data through prolonged and deep engagement with the data (interview, observation, memo-writing, and accurate documentation of the stages of the research). Table 1 provides the activities that were conducted to assess the trustworthiness of the results that were obtained.

Results

In this study, 22 Iranian women participated in the interviews. Their age range was 32-68. Most of the women were married and received adjuvant therapy of mastectomy surgery and chemotherapy. Table 2 provides the socio-demographic data of the women involved in this study. Generally, the findings of the study highlighted the important aspects of the women's experiences about their disease-related challenges and the coping strategies they used to adjust to the perceived psychological complications. Three key themes were extracted from the participant's expressions that describe the women's experiences with breast cancer-induced psychological problems and the ways they choose to cope with the problems, which included emotional turmoil, avoidance, and logical efforts. Themes and sub-themes that emerged from participants interviews are presented in Table 3.

Emotional turmoil

The core concept "Emotional turmoil" included the entire psychological and emotional distress patients encountered during the diagnosis, treatment, and survival period of cancer; it also included several sub-themes, i.e., isolationism, fatalism, role reduction, feelings of guilt, blaming others.

Isolationism

Tend to isolation. Some of participants noted that they were afraid of acquiring additional information about their disease, and they tended to isolate themselves from other patients and were unwilling to communicate with other counterparts.

A patient said

I stayed in a hostel of hospital when I was undergoing chemotherapy; I tried to isolate myself from other patient to avoid from any information that might emotionally affect me {p14}.

Fatalism

Surrendering to the fate. One of the unfavorable aspects of spirituality and religiosity is a sense of fatalism (a type of passivity), acceptance that fate or a god controls the outcome of one's health. This is considered to be an important barrier that prevents breast cancer patients for making any attempt to cope with cancer-related complications, to face the challenge to survive, or prevent a recurrence of the cancer.

People who ascribe to the above idea expressed this situation as "the disease is the will of God, and the treatment will be effective only if God allows it to be, so there is nothing else I can do. In this study, some of the patients had a fatalistic perspective about their disease and assumed that their disease was a spiritual fate or a test bestowed by God, and they surrendered themselves totally to their fate. Two patients with the fatalistic viewpoint expressed:

- I believe that I have breast cancer because of God willing and it is a willing of God, so I didn't feel to do something for, whatever happens if God want {p12}.

- If Allah (God) willing me to recover, I will live longer based on God willing {p8}.

Role weakening

The patients indicated that they mostly felt that their role was reduced because of cancer. They experienced reduction of their roles and felt more dependency on others, disability, and change in mental perception of their changed body (hair loss and breast removal).

Dependency. Some of participants remarked that they felt more need for others in their daily activities after the disease, i.e., they felt more dependent on others. A participant noted:

- When I got cancer, I felt dependency to others. I didn't like to impose my burdens to others. I preferred to die {p6}

Mental imagining. The treatments, such as chemotherapy, resulted in changes of their mental concept

and body images among these patients. Participants said:

- When I went for surgery and mastectomy, I felt very bad. I didn't like to lose my breast. I couldn't imagine how my body will look after surgery. This affects me negatively. For example, now when I take a shower I feel bad {p6}.

- What I was loss of my hair, I felt sorry. My hair was long. My head looked different; I cried a lot. I always cover my head; I didn't like every one see my head {p18}.

Disability. Patients also had a feeling of disability that they tended to relate it to the side effects of the treatments. A patient said:

- I felt disability after chemotherapy, I preferred to die in comparison with live and being dependent to others {p5}.

Feel of guilt

Some participants regretted delay seeking medical assistance. Delay in seeking help. Participants who delayed in seeking early detection experienced a feeling of guilt, and they blamed themselves for this. They mentioned the fear of a cancer diagnosis as the reason of their delay in seeking early screening despite the perceived symptoms. Some patients mentioned that they delayed seeking help due to their lack of knowledge about the symptoms of breast cancer, and they did not see themselves as being at risk for cancer. A woman said:

- I felt regret for my unhealthy before life style. I already ate more fast food, sausage and salami. I later realized that these are harm for health and may cause cancer {p17}.

Regret. Some of young participants expressed regret for their unhealthy diet, inappropriate lifestyle, or the stress in their lives. A woman narrated:

- When I got cancer I realized the value of health. I didn't know the fast foods may cause cancer and ate such food more time {p21}

Projection

Most of participants tended to relate all of challenges (including: irritability, feelings of loneliness, loss of patience, or low stamina) to the disease. Looking for reasons for getting this disease, feeling anger, a sense of unfairness, and blaming others were the most common reactions among the women who participated in the study.

Table1. Lincoln and Guba Trustworthiness Criteria's in a Qualitative Research Study That Evaluated in Present Study

| lincoln and Guba trustworthiness criteria's | |
|---|---|
| Credibility | Member-checking with 8 participants |
| | Peer debriefing with three researcher |
| | Prolonged Engagement |
| Transferability | Preparing the rich description through researcher |
| Confirmability | Confirmability audit with two expert researcher in field of qualitative research and reproductive health |
| Dependability | Code- Recode of transcriptions between two week through researcher External audit(both the process and product of the research study) through two expert researcher not involved in the research process |

Table 2. Demographic Characteristics of Women with Breast Cancer

| Variable | Categories | Numbers |
|-------------------|--------------|---------|
| Educational Level | Illiterate | 2 |
| | Primary | 4 |
| | Diploma | 10 |
| | University | 6 |
| Job | House wife | 15 |
| | Employee | 7 |
| Religious | Islamic | 21 |
| | Christian | 1 |
| Surgery Type | Mastectomy | 16 |
| | Lumpectomy | 6 |
| Hospital Type | Governmental | 14 |
| | Private | 8 |

Irritability. Patients who experienced chemotherapy remarked that the chemotherapy caused them to be emotionally sensitive. They believed that the irritability related to the treatments. A women said:

- I was irritated during the chemotherapy. I tended to cry every time. I was Persnickety. I think these are related to chemotherapy {p5}.

Loneliness. Some patients mentioned they felt more loneliness after the disease. For example a woman who was of Armenian minority said:

- When I got cancer, felt more loneliness. Because my family live in abroad. I felt, I need for their psychological helps more than getting cancer {p7}.

Low stamina. Some women expressed that they experienced a decrease in their stamina due to getting cancer. A young woman said:

- I tended to continue my job despite getting cancer. I felt better when I doing my job. I would like continue my business as usual. But I feel I get tired more than before, so I couldn't do the works as before {p15}.

Unfairness imaginary. Patients who were younger or didn't have a risk factor to getting cancer expressed the feeling of unfairness about getting cancer. Some patients felt unfairness about the treatment methods their doctors chose for them and were unsatisfied about it. A participant expressed:

- I felt unfairness about type of my treatment, I get so sorry when I inform it was possible that I didn't lost my breast totally. I talk with other patient who had the same situation as me and they didn't lost their breast {p11}.

Anger. Some of patient mentioned they felt anger about the health authority's irresponsibility of informing people about this important disease. These patients believed that they would have sought help sooner if they had been informed about breast cancer previously.

- I said my doctor the media are responsible about people health, if media advertising were allocated to cancer prevention information, I might not to get cancer

{p15}.

Blame imaginary. Some women tried to identify the blame for their disease, while some women blamed the stresses in their lives, and others felt guilty about things they had done in their lives and saw cancer as their punishment. Another idea was that the women get breast cancer because they have relationships with negative-thinking people. The following quotes indicate the participants' attitudes about the cause of their disease:

- I hadn't any risk factor for breast cancer and I always did take care about risk factors and adopted healthy lifestyles, also, there wasn't any history of breast cancer in my family but I think it is related directly to my stressful life style {p9}.

- I always think about that what wrong I did that would be bear this terrible condition??? Every day I ask myself why me???? {p19}.

- I had near communication with a so negative energy friend and it might be the reason of my disease {p18}.

Generally, the women with breast cancer in this study used the strategies of avoidance and reasonable efforts to cope with the emotional turmoil they encountered during the treatment and in the post-treatment period.

Avoidance

Avoidance was the strategy that some of the women used to deal with the emotional complications related to their disease. This theme included two sub-theme: Diversion and Refusal.

Diversion. Some patients tried to avoid threatening and unpleasant thoughts related to the disease, and they used self-distraction for this purpose. In addition, some women tried to ignore the symptoms and diverted the thought of the probability of having cancer through desirable thoughts. The patients reported:

- I tried to occupy my mind to avoid from intrusive thoughts, for example tried to cook several type of food,

Table 3. Themes and Sub Themes Emerged from Participants Transcriptions

| Themes | Sub-themes |
|--------------------|------------------------|
| Emotional turmoil | Encounter |
| | Isolationism |
| | Fatalism |
| | Role reduction |
| | Feel of guilt |
| | Blaming others |
| Avoidance | Self-distraction |
| | Refusal |
| Reasonable efforts | Cognitive acceptance |
| | Positive thinking |
| | Threat control |
| | Seeking spiritual help |
| | Role retention |
| | Using support |

watch TV from morning to night or take a sleeping pill and sleep all the time {p16}.

- When I felt the mass in my breast I said myself it might be a cyst and didn't tend to follow it. I believed it was an unimportant. I desired it wasn't a malignant mass {p19}.

Refusal. Some patients refused to accept the problem and did not intend to undergo treatment. These patients tended to avoid chemotherapy. They didn't accept the possible side effects of the treatments, so they refused them. In addition, participants who believed in the negative effects of grief and its influence on patients with cancer tended to refuse treatment. They believed that the treatments might be ineffective, causing them to feel emotionally debilitated. The women said:

- I had knowledge about terrible side effects of chemotherapy, so I didn't like to do it. I couldn't accept its terrible side effects. I didn't like lost my hair.

- I refuse of going to funerals and mourning due to prevent of negative effect of these things to my morality {p10}.

Logical efforts

These efforts are the patients' strategies that were used to control and suppress the perceived emotional turmoil during the process of adjustment. Sometimes patients applied these efforts to preventing the recurrence of cancer because of the perceived fear that could happen. This main theme includes seven sub-themes, i.e., cognitive acceptance, positive thinking, seeking spiritual help, role retention, and the use of support.

Cognitive acceptance

The group of participants used the cognitive approach and positive and constructive thoughts to adjust to their situation. Cognitive acceptance included accepting the fact that they had the disease, acceptance of living their lives with certain losses, and continuing to live their lives as normally as they did before the diagnosis.

Acceptance of the fact that they have the disease. Some patients accepted the disease and tried to keep their morale high to cope with it. These patients mentioned that they accepted the disease easily due to their previous experience of communicating with other people who had survived cancer for a long time. A woman who seemed to have accepted and adjusted to her disease said:

- When I heard I have cancer, I didn't feel fear. I try to protect my morality and I know this is a curable. I was sure I survive. I accept that is a fact and I can't escape from it {p10}.

Acceptance of life with some losses. Some women accepted the facts that they would lose their hair for a while and that the breast with cancer would be removed because they preferred to regain their health instead of focusing on the loss of their hair and a breast. A woman said:

- I preferred to be alive and with my children and obtain my health again versus losing my hair or breast {p16}.

Continue to live their lives as normally as possible. Women who accepted the new situation tried to live normal lives and tended to do the things they used to do and behave as they did before the diagnosis. Concerning

this approach, a patient said:

- I try to do daily and routine activities, as before done, I believed that I should continue to life, as is the norm. I thank God, because my life continued as normal as before despite the side effects of chemotherapy {p22}.

Positive thinking

One of the most important things that breast cancer patients frequently do is to develop an optimistic attitude and use it to cope with perceived cancer-related challenges. Positive thinking included being hopeful and having confidence that they would survive.

Hopefulness. This positive approach was used by most of the patients. They believed that they should always remain hopeful in order to preserve their morale, because high morale provides beneficial effects on the recovery from cancer. For example, some of patients believed that breasts do not have an essential role in the body and that they could be replaced without any significant effect on the other functions of the body. Breasts are not as important as hands or legs. One of the participants with this thought said:

- When my doctor Saied me that mastectomy would be one part of my treatment, I think that my breast plays no role, it isn't important to lose it, and I can easily do without it. I compared myself with disable one on a wheelchair and I thank God that I have not to lost a hand or a leg and I preferred lost my breast {p17}.

- I always tried not to lose my hope about recovery from cancer; I always tried to be optimistic and hopeful {p5}.

- I always say myself "I'm not the only one diagnosed with the breast cancer" others are diagnosed with the disease as well. When I come to the hospital, I see women of all ages diagnosed with the same disease. I have a friend who has survived from breast cancer 30 years ago and now continue to live healthy ... I know many people who survived from cancer {p20}

Confidence. Some optimistic patients ensured themselves that their disease was curable, and they were sure that advances in medical science would occur and that better ways of treating cancer would be developed. For instance, one of the participants said:

- I am sure that medicine is advancing very fast, there will be many treatment options and I hope the day will come that, breast cancer will just like any other chronic illness. In addition, I believed Iranian doctors could do cancer treatments as better as European countries doctors could. I was assured about survive of cancer since informed of my disease {p19}.

Seeking spiritual help

Most of the women emphasized the effectiveness of spirituality and religion and remarked that praying helped them to cope with problems, ranging from the crisis that resulted from the diagnosis through the survivorship period. Women narrated:

- When I heard I got cancer, I asked our Imams' help me. I went to a priest before going for mastectomy, and asked him to pray me and then I was relaxed {p7}.

Role retention

Self-efficacy, the denial of dependency, and job retention were the strategies that enabled patients to continue the special roles they had before the diagnosis and to help them to adjust to their new situation.

Self-efficacy. Some patients believed that they could fight with the problems that resulted in the disease, and they tried to cope with the challenges associated with cancer and its treatment through self-efficacy. A woman said:

- I tried to fight with disease because I didn't like to fail from it. I tried also to preserve my morality and went walking every morning during the treatment {p15}.

Dependency denial. Some women didn't intend to be dependent on others and always tried to do their routine work at home as they did before the diagnosis. A patient who denied dependency said:

- I went for chemotherapy myself and came back home and tried to cook the food as previous {p13}.

Job retention-Most of the patients who worked before their cancer diagnosis were interested in returning to work, and some of them tried to continue working as they had done before the diagnosis. A university lecturer said:

- I went to university and taught for 6 hours with a drain in my chest after mastectomy. I preferred to continue my work life as before so I tried to do, I told myself, I could {p9}.

Support

Our findings indicated that positive support (emotionally, informational, and financial), especially from family, friends, cancer survivors, and healthcare professionals, had very positive impacts and encouraged them to cope with their cancer-related challenges.

Emotional support-Patients' families (including spouses, mothers, sisters, brothers, and children) tried to provide emotional support for the patients and this enabled them to cope with cancer-related complications and adjust to their new situations. The patients in the study reported that the emotional support of their family members enabled them to deal with the grief that resulted from their hair loss due to chemotherapy. The participants described the support as follows:

- After third session of chemotherapy I lost my hair, I never forget what my brothers did; all of them scarify their hair and do this until the end of my chemotherapy treatment. They surprised me and that was a great emotional impact. I understand that I am not alone because my husband supports me during this terrible period {p8}.

Instrumental support. Some patients received financial support from their families; they emphasized the important role of such support on morality of patient. A participant who didn't receive financial support from her family said:

- My husband didn't support me nor emotional, nor financial during the treatment period, had I to prepare money for my treatment. I borrow money from my friend and it was as a pressure and additional distress for me {p8}.

Informational support. Most of the patients were unsatisfied about their unmet needs for information related to their appropriate care after the mastectomy or

the chemotherapy. The participants declared that they had to gather information from other patients or from Internet sites. A woman mentioned:

- My doctor didn't explain about the side effects of chemotherapy, I had to collect the information through other patients or from internet.

Mutual Empathy. Some of the patients said that they tried to conceal their problems from their families or children because they did not want to bother them; also, some of the patients mentioned that they felt their family members tried to hide their feeling and senses from them, and this mutual empathy was another type of support that was experienced among the participants in this study.

- I conceal my feeling and worries from my children, also I understand they do the same thing for me and they didn't express their real feeling for me {p8}.

Need of support from effective people. Most of the patients believed that the information and emotional support from healthcare professionals were more reliable; nevertheless, doctors and nurses did not provide adequate information or emotional support for the patients. In describing this situation, one participant reported that:

- If someone, preferably my doctor explained me about how to do care after chemotherapy, I would have done that; and I could have more mental relaxation and it (chemotherapy) may be tolerable for me.

Empathy and respectfulness. The patients expressed that they needed professional support accompanied by empathy and respectfulness from then beginning to the end of the process. Some patients expressed frustration at the alien culture of the biomedical team, but, later, she was delighted with the informational support and advocacy she received from another patient when she needed support:

- I learned about chemotherapy from my doctor in a private hospital, but my doctor in a governmental hospital didn't inform me about the radiation treatments. I felt they didn't respect patients in governmental hospital may be due to we didn't pay money for treatments, also I understand there are so many patient and the doctors haven't enough time to speak with all of them {p15}.

Overview of the themes extracted from the interpretation of the data

Generally, this study provided a comprehensive insight about the concept of adjustment with breast cancer among Iranian women. Adjustment resulted in from the extended range of behavioral and cognitive strategies, which employed with these patients. It should be considered that adjustment with cancer might require the long time and including the adjustment in different period of disease (diagnosis, during the treatment and survivorship period). The patients tried to employ various strategies to fight for survive and cope with cancer. The coping strategies involved emotional expressions and emotional turmoil, avoiding from disturbing thoughts and logical efforts to solving the problems.

Discussion

This is the first qualitative study using the phenomenological approach that emphasized the

experiences of breast cancer patients and described the ways Iranian women coped with breast cancer-related complications and changes in their lives during the survivorship period. Cancer has become a pervasive illness, but advanced diagnostic procedures and treatments have resulted in many people surviving the disease and continuing to live for lengthy periods with its impact. To date, the available knowledge concerning cancer and its effects on people currently is inadequate. In addition, survivors must use coping strategies to adjust to the inevitable impacts of cancer, such as cancer-induced emotional senses. These strategies contribute to the patients' abilities to deal with the psychological reactions that can be defined as "Emotional turmoil, Avoidance and Logical efforts," which have been identified as the core concepts of the adjustment among Iranian women with breast cancer. Most women with breast cancer formulate a psychological response to their situation, and the response they choose presumably will be manifested in their behaviors and possibly in their physiology.

Losing a breast and one's hair changed the patients' perceptions of their own bodies. Changes in the body image after the treatment period were experienced among most of the women with breast cancer (Taleghani et al., 2008; Yusuf et al., 2013).

Another emotional turmoil that the patients in this study suffered was feelings of anger, unfairness, and self-blame when faced with the cancer diagnosis. The findings of the study agreed with those of other studies that investigated the coping strategies used by cancer patients (Kim et al., 2010; Chen and Chang, 2012; Jassim and Whitford, 2014).

Most of participants in this study explained that they had experienced anger and feelings of unfairness when they received the breast cancer diagnosis, and they tried to blame others for their disease. This finding is consistent with other studies that have investigated the coping process used by cancer patients (Chen and Chang, 2012, Jassim and Whitford, 2014).

Most of the participants in this study believed that they get cancer because it was God's will; in some cases, the patients believed that "the disease came from God (fatalistic viewpoint); we cannot prevent it, and it does not matter what we do." This belief resulted in delays in beginning treatment, applying any strategy to control recurrence, or coping with other cancer-related complications. These findings concerning the fatalistic views of the patients were in good agreement with Harris et al.'s (2013) and Cebeci et al.'s (2012) findings, which indicated that some patients consider illness as their 'destiny' and 'God's test,' so they surrender themselves to their fate (Cebeci et al., 2012; Günüşen et al., 2013; Harris et al., 2013; Elsheshtawy et al., 2014).

Avoidance strategies, such as self-distraction, were the other strategies women in this study used most to cope with intrusive thoughts, and that also was in line with the same previous studies (Khalili et al., 2013; Tuncay, 2014).

Women with a history of breast cancer use different strategies to cope with their cancer-related challenges; the use of coping strategies depends on many factors, one of which is one's culture. In Iran and other Islamic

countries, the most prevalent methods used to cope with cancer-related psychological challenges, such as the fear of recurrence of the cancer, are the religious approach, spiritual fighting, positive thinking, and maintaining hope that the disease has been defeated.

There have been numerous research efforts in this field that confirm the positive impact of spirituality and religious practice on breast cancer patients' abilities to cope with the cancer and to obtain relief from mental anxiety (Anderson, 2013; Taleghani et al., 2008, Cebeci et al., 2012; Joulaee et al., 2012; Khalili et al., 2013; Abdollahzadeh et al., 2014; Tuncay, 2014).

Problem-focused coping strategies, such as cognitive acceptance, positive and constructive thinking, and using emotional support and religion were mostly considered as beneficial coping strategies (Folkman and Lazarus, 1988; Anusasananun et al., 2013). The results of this study indicated that trying to be hopeful and trying to have a positive, optimistic perspective and cognitive acceptance have very important roles among young women who are married and have relatively young or school age children. For example, in this study, women tried to remain hopeful by concluding that the breast is not a vital organ. It may have a role in determining the shape of the body and in providing an attractive appearance, but health always should be given priority over beauty, which makes the removal of a diseased breast a relatively unimportant issue. Therefore, they considered removing the breast as a way of being free of cancer. These results are consistent with results of studies that evaluated the coping strategies women that used to deal with cancer-related psychological problems (Drageset, 2012; Taleghani et al., 2008; Chen and Chang, 2012; Yusuf et al., 2013).

In this study, most of the women mentioned that they wanted to continue to perform their maternal roles and the roles as a spouse, including looking after children, buying groceries, cooking, and continuing to work. When they felt that life was going to continue normally, it gave them a sense of being in control. In addition, this may be due to the Iranian culture in which women have responsibility towards the family compared to the individual lives in the Western society. The same desire was reported among Bahraini women with breast cancer. This similarity may result from the similarity of the two cultures (Jassim and Whitford, 2014).

Most of the women who worked before being diagnosed with cancer tended to continue their work because it provided a distraction; some women mentioned that they felt included in the social environment when they continued their work. Continuing with business as usual was an important way that patients with cancer used to adjust to their situation; this also has been mentioned in other studies in which research was conducted to determine the ways of coping used by cancer patients (Drageset, 2012).

In addition, our findings indicated that positive support, especially from family, friends, and healthcare professionals, helped women with breast cancer deal with the uncertainty they felt after the diagnosis. However, in our study, the women reported that they did not receive enough favorable support from healthcare personnel,

including doctors and nurses. This finding was consistent with the findings of numerous studies that emphasized the importance of any type of support for patients with cancer and its positive effects on the ability of these patients to adjust to their new circumstances (Taleghani et al., 2008; Kim et al., 2010; Cebeci et al., 2012; Forsythe et al. 2013; Yusuf et al., 2013; Abdollahzadeh et al., 2014; Ghaffari et al., 2014; Tuncay, 2014).

Generally, most Iranian women try to use logical coping strategies to adjust with their situation after breast cancer. Nevertheless, some women in this study seem to be emotionally confused and needed psychological interventions. They need to learn how to enhance their skills in using the various coping strategies. Interventional programs should focus on enabling cancer patients to understand their situation and the possible cancer-related complications so that they can realize that they have an essential role in coping and adjusting to this complicated situation.

The qualitative data acquired in this study provide profound insights about the experiences of Iranian women with breast cancer, the cancer-related challenges, and the coping strategies that can be used to adjust to the challenges. According to the results of this study, breast cancer affects several aspects of women's health, but using effective coping strategies result in the promotion of the patients' quality of life and their psychosocial adaptation to breast cancer. Standardized psychological screening is recommended for all women after their cancer diagnosis, during the treatment period, and during the survivorship period. Such screenings can result in an appropriate flow of information between providers and survivors about the psychosocial needs and coping skills required to meet those needs. Healthcare providers should provide psychooncology intervention programs to help patients and prepare them to use the coping strategies required to improve their overall quality of life. In addition, the findings of this study emphasized the importance of taking individual cultural beliefs into account when designing intervention programs for additional palliative care.

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Conflict of interest

The authors declare no conflict of interest

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