RESEARCH ARTICLE

Appraisal of Breast Cancer Symptoms by Iranian Women: Entangled Cognitive, Emotional and Socio-Cultural Responses

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Abstract

Background: Breast cancer is the most common cancer in Iranian women and usually features delayed presentation and late diagnosis. Interpretation of symptoms, as the most important step, has a significant impact on patient delay in seeking treatment. There is a dearth of studies on symptom appraisal and the process leading to seeking help in breast cancer patients. This study explored the perceptions and experiences of Iranian women with self-detected possible breast cancer symptoms. **Materials and Methods**: A qualitative method was conducted involving in-depth semi-structured interviews with 27 Iranian women with self-discovered breast cancer symptoms. Participants were purposefully selected from women who attended Cancer Institute of Tehran University of Medical Sciences during June 2012 to August 2013. The audiotaped interviews were transcribed and analyzed using conventional content analysis with MAXQDA soft ware version 10. The trustworthiness of the study was verified by prolonged engagement, member validation of codes, and thick description. **Results**: The main concepts emerging from data analysis were categorized in four categories: symptom recognition, labeling of symptoms, interactive understanding, and confronting the fear of cancer. Symptom recognition through breast self-examination, symptom monitoring and employing prior knowledge distinguished normal from abnormal symptoms and accompanied with perception of being at risk of breast cancer led to symptom labeling. Social interaction by selective disclosure and receiving reassurance from a consultant led to confirmation or redefinition of the situation. Perceived seriousness of the situation and social meanings of breast cancer as a stigmatized and incurable illness associated with loss of femininity were reasons for patient worries and fear. **Conclusions**: This study emphasized that entangled cognitive, emotional and socio-cultural responses affecting understanding of symptom seriousness require further investigation. It is suggested that programs aimed at shortening patient delay in breast cancer should be focused on improving women's knowledge and self-awareness of breast cancer, in addition to correcting their social beliefs.

Keywords: Breast cancer - socio-cultural - entangled cognitive responses - Iranian women

Introduction

Breast cancer is the most prevalent cancer in Iranian women with an increase in incidence rates in recent years. Iranian patients with B.C are about 10 years younger than that of their counterparts in developed countries (Ghiasvand et al., 2011). Furthermore, most of the patients (70%) have local recurrence or distant metastases at the time of diagnosis (Harirchi et al., 2005).

The results of two studies showed that 25% (Montazeri et al., 2003) to 42.5% (Harirchi et al., 2005) of Iranian women do not seek medical help until three months or more after initial detection of breast symptoms. Delayed presentation is accompanied with late stage of disease, high mortality (Montazeri et al., 2003) and lower survival

rate in Iran (Babu et al., 2011).

Interpretation of symptoms, as the first (Adam and Soutar, 2003; Lam et al., 2009; O'Mahony and Hegarty, 2009; Unger-Saldana and Infante-Castaneda, 2011) and most important step (Burgess et al., 2001; Lam et al., 2009) in seeking help, has a significant impact on patient delay (de Nooijer, Lechner, and de Vries, 2001). Most women experience common and transient cyclic or noncyclic breast changes. Breast symptom may represent normal changes, a benign disease, or breast cancer (Lam et al., 2009). In spite of the increasing availability of mammography, breast cancer symptoms are largely discovered by women themselves (Facione, 1993; Taib et al., 2007). In Iran there is no national mammography screening program about clinical breast examination

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(Babu et al., 2011). Therefore, symptom detection by patients and early response to self-discovered symptoms is important modality to the early diagnosis of breast cancer.

Symptom is "a subjective experience reflecting changes in the bio-psychosocial functioning, sensation or cognition of an individual" (Teel et al., 1997; Nyawata and Topping, 2006). Beyond pathophysiological changes, this definition may reflect individual and socio-cultural factors that make interpretation- of a symptom (Teel et al., 1997).

Symptom appraisal and its influence on seeking help have motivated researchers to provide strategies to shorten delay. Most studies on symptom appraisal focused on cognitive-perceptual processes, that is, the perception of a symptom as serious condition leads to seeking help while its perception as normal and not serious may cause delay (Petrie and J, 2003; Nyawata and Topping, 2006). In these studies, the interpretation of initial breast symptoms is mainly affected by symptom nature (Burgess et al., 2001; de Nooijer et al., 2001; Lam et al., 2009) personal knowledge (Burgess et al., 2001; Lam et al., 2009; O'Mahony et al., 2011) and perceived risk of disease.

Some authors have challenged these findings (Granek and Fergus, 2012; Petrie and J, 2003), as they believe that there is no adequate evidence to answer why some women promptly seek help and others delay (Petrie and J, 2003). Granek and Fergus (2012) believed that the results of such studies are influenced by dominant biomedical perspectives and do not adequately explain the psycho-social complexities and dimensions of symptom appraisal (Granek and Fergus, 2012). They suggested further studies in different communities to understand how various meaning of symptoms may be influenced by contextual and cultural factors (Petrie and J, 2003; Granek and Fergus, 2012).

Iranian women do not receive adequate information about symptoms, risk factors and screening methods of breast cancer (Montazeri et al., 2008; Babu et al., 2011). Even though the majority of breast cancer cases are detected by patient themselves, there is no research on perceived meanings of breast symptoms by women behind delayed presentation of breast cancer. Therefore we conducted a qualitative research to provide insight into the perceptions and experiences of Iranian women with self-discovered breast cancer symptoms applying an interactive approach to develop strategies that fit the socio-cultural context of Iran.

Materials and Methods

The present study was a qualitative content analysis. The participants were 27 Iranian women admitted at Cancer Institute of Tehran University of Medical Sciences who presented with self-discovered breast cancer symptoms. To achieve a maximum variation of experiences, data were collected from patients with confirmed or non-confirmed diagnosis of breast cancer who presented for medical consultation, diagnostic testing, or treatment. Women who had prior cancer diagnosis or whose abnormal lesions were discovered during routine mammograms or clinical examinations were excluded. In some cases to obtain more valid data, the patient's relatives

were asked to participate in the study.

The women were chosen using purposive sampling. To capture greater insights into the appraisal phenomenon, maximum variation was applied based on the type of breast symptoms, patient age, socioeconomic status, and duration of patient delay. Sampling lasted 14 months (June 2012 to August 2013) until data saturation was achieved. Data analysis was conducted concurrently and selection of additional participants was a function of developing categories and themes.

Data were collected over 40 to 90 min of semi-structured in-depth interviews. Questions focused on the breast disease rather than directly on breast cancer, except where participants discussed themselves about breast cancer. General questions guided the researcher at the beginning of data collection process. Primary questions included: ***Please describe what happened?***

What were your symptoms and how did you detect them?

How did you experience the symptoms?

What were your thoughts and feelings about symptom discovery?

How did you deal with this issue?

Did you talk about it with anyone? If so, how did they react?

For greater clarity, the initial questions were followed by probing questions to elicit more detailed explanations or examples. All interviews were audiotaped with the participants' consent and transcribed verbatim. The trustworthiness of the study was verified during frequent discussions with three expert qualitative researchers about conducting and analysis of the interviews, prolonged engagement of the researcher with the participants, external review by an expert qualitative researcher, and thick description of the study.

Data analysis was based on conventional content analysis using MAXQDA software version 10. This method is commonly used to textual data analysis where a high volume of data is abstracted, coded and classified in a systematic manner (Grbich, 2012). In this approach, data analysis is not directly based on a predetermined theory, but categories are derived from the data (Hsieh and Shannon, 2005). For this reason, at first, all transcripts were reviewed to catch an overall sense of the data. Then each transcript was studied verbatim and all words, sentences or paragraphs denoted meaning related to the aim of study were extracted and coded. Based on a constant comparison of data, codes that were conceptually similar were classified into one category. As analysis proceeded, the primary categories were integrated and larger categories with more abstract conceptualization and more comprehensive coverage were developed; thus, concepts with different levels of abstraction and relationship were constructed. Concurrently, memos and diagrams were directed towards the data collection and analysis.

Ethical considerations

This study is part of a PhD thesis in Reproductive Health focusing on the health seeking behavior of

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Iranian women with self-detected potential breast cancer symptoms at Mashhad, Iran. It was approved by the Ethics Committee of Mashhad University of Medical Sciences. Initially, the associated hospital authorities agreed to cooperate in the conduction of the study. After choosing eligible participants, they were informed of the objectives, team members, and methods of conducting the study, including the need for audio tape-recording of interviews. They were also informed of their right of confidentiality of information, anonymity, and the right to withdraw from the study at any time. Those who were willing to participate were invited to sign an informed consent form.

Results

Table 1 shows the characteristics of study participants. Content analysis suggested four categories clarifying the symptom appraisal by Iranian women who self-discovered symptoms: symptom recognition, labeling of symptoms, interactive understanding and confronting the fear of cancer.

Symptom recognition

The first step in the symptom assessment was to identify the nature of the symptoms. At this stage, participants attempted to answer the questions, "What are the characteristics of the identified body change? Are these features important or not?" The participants detected specific or nonspecific symptoms that included a lump

Table 1. Summary of Participants' Characteristics

Variable	Participants (n=27)
Education level	
Illiterate	5
Primary school	4
Secondary school	4
Diploma	10
Bachelor	4
Employment status	
Unemployed	22
Employed	5
Marital status	
Married	25
Single	2
Age	
Age Range	26-71
Mean age (years)	42.84
Nature of symptom	
Lump without pain	14
Lump with pain	6
Lump with other symptoms	4
(hand swelling, fatigue, fever)	
Other symptom	3
(breast pain, bloody nipple discharge, skin changes)	
Diagnosis	
Definitive diagnosis: Breast cancer	15
Primary diagnosis: Benign condition	9
Without diagnosis	3
Family History of breast cancer	
Positive	4
Negative	23

with or without pain, inverted nipple, breast skin changes, swollen hands, fever and fatigue.

In most cases, the lump was discovered accidently rather than purposeful self-examination and symptoms such as large or superficial lumps, skin changes, pain and bloody nipple discharge were self-evident and led to detection of the symptom. Unique and annoying changes, especially in conjunction with a lump were helpful in distinguishing normal changes from an abnormal finding:

"It didn't even occur to me to examine my breasts for lumps; I touched my breast accidentally and found a mass there"(p5, BC).

"It was huge--the size of an egg--and I felt it while I was showering" (p3, BC).

"At the last year I've had little rashes under my left breast, but recently it was different, you know, it was painful" (P8, without diagnosis).

The initial symptoms did not raise enough concern for prompt follow-up by most participants; despite detecting an abnormal finding, they were unmindful to take action and followed by symptom monitoring as the main strategy for better symptom recognition:

"It was large, sometimes I could feel it by hand, but I didn't really think about it" (P1, B.C.).

"Once I noticed it, I checked myself whenever I remembered that. Sometimes I thought it was smaller, but further examination showed it was the same size" (P10, without diagnosis).

In this process patients compared their new findings with previous knowledge and experiences in an abstract way:

"I found a lump almost two weeks after my monthly menses, so I was scared; I knew it was normal to feel changes and pain before my menses, but what about after?"(P18, benign).

In most cases, appearance of pain, persistence and progression of symptom provoked the participant to follow up. Although persistent pain with or without a lump was identified as a warning sign by all participants and triggered some sort of action, the growth of a painless mass was ignored by some patients:

"It was a lump; at first, about the size of a small green tomato, but later it got larger. Two or three months later, they become three huddled together, but they were not painful" (p1, B.C).

Therefore, initial personal understanding of the symptoms, mainly obtained by cognitive elements as examination, comparison and symptom monitoring led to the perception of the seriousness of the symptoms.

Labeling of symptoms: weighting to different illness

Initial perception about likelihood of a symptom being abnormal prompted the patient to seek its cause. At this stage she asked this question: "What might be the cause of this symptom? This step immediately occurs without specific boundaries after the previous stage. Patient for responding to this question often considered concurrent multiple options rather than one option, with different strengths and with different degrees of uncertainty.

Specific and non-specific symptoms produced different outcomes. Symptoms such as swelling of the hands,

weakness, fever, and fatigue were attributed to the general ailments or problems in adjacent organs, such as anemia or arthritis, rather than breast disease:

"I had a fever; I even thought it might be brucellosis, but it (breast mass) did not have pain. I thought it is unlikely that it's related to my breast" (P23, BC).

However, specific breast cancer symptoms such as breast lumps were attributed to the breast and produced concern about whether it would be benign or malignant:

"I touched my breast, I felt a lump. I thought, 'what is it; is it cancer or not? Is it curable or not? What will happen?" (P7, benign).

Most patients were initially inclined to assume it benign; but a few patients assumed it was malignant. Burning or pain in the breast without mass detection was attributed to a wider range of causes, such as heart disease or arthritis of the neck:

"About one year ago I had indigestion and I thought it might be my heart. I had ovarian cysts and I thought it may be a result of that" (P6, BC).

Attributing symptoms to benign ailments decreased serious consideration of follow-up: "It has now been almost two years since I found it in my breast, but I didn't care much because older people said that milk residue can form a lump; I had no pain... nothing." However, attribution of symptoms to cancer led to the perceived need for follow-up.

In most cases, a painful lump was attributed to serious condition: *"When you have pain, you think it might be cancer, so I went for mammography",* While painless lumps were attributed to breastfeeding, hormonal changes, trauma, fatty tumors and menopausal changes: *"I said it is not painful, so it is not important; I said it might be a fatty lump. When it became painful with a lot of irritation, I went to the doctor."*

Individual knowledge and experiences about breast disease played an important role in labeling symptoms. A lack of knowledge was obvious in the patient narrations, especially in patients who delayed seeking help. A patient's reliable source of data played more important role towards any sort of action than merely individual knowledge. Women who ignored their breast mass often had relied on knowledge acquired from lay system instead of getting it from a professional opinion.

"My elder daughter had a tumor and she had surgery; it was a lipoma. I said my mass is the same" (P12, BC).

Risk assessment affected labeling the ailment in some cases. The majority of participants did not assess themselves as being at risk of breast cancer. They based their assumptions on optimistic attitude, inaccurate knowledge or misinterpretation and did not consider themselves at risk. They believed that women who are single or without family history of breast cancer, cannot be at risk of breast cancer.

Participants who considered themselves at risk for breast cancer always assessed symptoms seriously. Women with family history of breast cancer or who had witnessed an increased incidence of breast cancer in the community assessed the risk of ailment seriously. Patient 16, who visited a doctor one day after discovering a bloody discharge from her breast said:

"Because there is the history of breast cancer in my family--my sister has breast cancer, the wife of my cousin had cancer and she died because of that--these had a strong impact on me ... so ... when I discovered it, I was scared really"(P16, without diagnosis).

Thus initial personal understanding of the possible causes of the symptoms was mainly influenced by socially-constructed knowledge and risk assessment by the patient.

Interactive understanding

Patients tried to acquire deeper interactive understanding and confirm or deny assumptions about the possible causes of their symptoms. Effective interaction with social networks was a purposeful strategy that participants applied to manage their situations. This led to selective disclosure of symptoms in most cases and acquiring knowledge from media in a small number of cases. Acquiring knowledge from media such as the internet, books, and magazines were not common among the participants; it was reported by only two participants.

Selective disclosure was used to receive the most social supports with the least threat. Disclosing was based on prediction of interactive behavioral outcomes and was selective, leading to secrecy. The criteria for selection included family relationship, history of experience of breast disease, and in some cases, professional knowledge.

Some participants limited disclosure to avoid extreme emotional reactions and disruptive family decisions, as well as having to deal with social consequences, such as spreading the news, unnecessary questions from outsiders, secrecy and gossip. One participant said:

"I tried to consult someone with professional knowledge in the field; consulting with the family members is confusing and worrying" (P24, benign).

Presenting both the threatening and non-threatening aspects of the symptoms and promising good results for early treatment were effective strategies adopted by consultants with professional knowledge and some close relatives; this approach led the patient to take action. Participant 18 offered a good explanation:

"I consulted my colleague, who is a general practitioner, she said: 'Don't worry, a lump with pain is often not serious, but good follow-up is necessary; even if you are busy, go and see a doctor soon" (P18, benign).

By contrast, some consultants tried to explain the symptoms as natural or less threatening in order to help patients cope psychologically, and this led to delay in seeking treatment. It is evident that social interaction directed in a thoughtful manner led to verification, confirmation, or redefinition of the initial understanding of the symptoms.

Confronting fear of cancer

Psychological reactions were integral parts of symptom assessment; participants expressed their understanding of the seriousness of symptoms using emotional descriptions. Some participants who had normalized or minimized their symptoms did not report negative emotional feelings:

"I said it is not painful, not a serious problem; I did not worry, it thought it may be a benign lump" (P11, BC).

Some others experienced negative psychological reactions to the perceived risk of cancer such as fear and depression. Fear of confronting a cancer diagnosis and its consequences was the main concern of participants. Participants described cancer as pain, suffering, mastectomy, chemotherapy and death. Some participants, particularly patients with a certain diagnosis of cancer, strictly avoided using the word "cancer". Other participants explained their concern of cancer using words such as "conflict", "torment", "hard and uncomfortable", "loss", "end of the line", "hair-shedding" and "loneliness".

Psychological and cognitive reactions interacted so that fear of and concern about cancer resulted in perception of seriousness of the symptoms. The emotional reactions affected individual perception and acceptance of the situation.

Coping mechanisms to face unpleasant situation were expressed as suppressing fear, denial, and unrealistic optimism that minimalized the seriousness of the situation. In such conditions, optimism manifested as "not thinking about bad issues" and "not magnifying the issue":

"It didn't occur to me that I've got the same disease (breast cancer) as my cousin, so I thought about good things. I thought that it may be cystic lumps or milk residue" (P12, BC).

"I have a positive attitude, so it's not a matter. I didn't want think about it; this is a better approach, I don't believe in magnifying the situation" (P14, BC).

Younger patients expressed their negative emotions and psychological reactions more clearly than older patients did. Patient 5 was 35 years old and single. She expressed her strong fear of the symptoms saying,

"I was depressed, I cried really; I thought it is cancer, it was dangerous." (P5, BC).

Patient 2 was 59 years old and expressed her emotions in a confused manner. She said:

"I told my daughter-in-law about my illness... she told me to go to a doctor first. I said I wanted to, but I'll go later on, I don't want to bother my children. I can tolerate the pain. You know, when we are healthy, we should not be ungrateful and should not be upset, so I don't want to show ingratitude" (P2, BC).

Emotional reactions could affect help-seeking behavior, seriously. Severe reactions related to the suspicion of breast cancer often led to seeking help earlier. By contrast, not being worried about symptoms by thinking of a benign lump prevented patients from seeking help. Hesitation between the choice of a benign or malignant lump and fear of a cancer diagnosis increased the emotional reaction in the patients, which rendered them incapable of making a decision. This problem was obvious in the narration of Patient 7 in the form of contradictory statements. She delayed for two months before seeking help. She explained the fear of cancer as both an inhibiting and stimulating factor:

"I was scared to go to the doctor, because I feared that it might be cancer. When I could no longer tolerate the pain, I visited a doctor" (P7, benign).

It is evident that emotional reactions inhibited, stimulated, or caused hesitation in redefining the situation and taking action.

Discussion

Some studies have used different approaches for symptom appraisal and its effect on the help-seeking process. These studies focused more on cognitive and psychological aspects with less emphasis on the social and cultural dimensions of this issue.

The results of this study showed that symptom appraisal contained four necessary elements: identifying the symptom as distinct and abnormal, attributing the symptom to the breast, labeling the illness, and perceived need to seek help. Symptom appraisal developed through two basic steps; initially individual understanding and interactive understanding influenced by entangledcognitive, emotional and socio-cultural factors.

The results of the present study provide a new insight into the appraisal process of breast cancer symptoms by Iranian women. Participants in this study experienced a wide range of local and general symptoms of breast cancer. The attribution of symptoms to the breast strongly affected the symptom assessment process. Participants logically attributed general symptoms to systemic illnesses and organic symptoms to a problem in the affected organ. Some patients deferred diagnosis to an adjacent organ. Patients' attention to none-breast symptoms, deviated help seeking process and led to both patient and provider's delay. Studies, which we reviewed have not reported the experience of general symptoms by breast cancer patients and its role on patient delay. Arndt et al (2003) verified an association between providers' delay and presenting a non–breast symptom among patients with breast cancer in Germany (Arndt et al., 2003).

In present study consistent with some other studies (Burgess et al., 2001; Adam and Soutar, 2003; Lam et al., 2009; Unger-Saldana and Infante-Castaneda, 2011), breast lump was the most common symptom experienced by women and women tended to perceive initial breast symptom as non-serious (Burgess et al., 2001; Gates, Lackey, and Brown, 2001; Lam et al., 2009; Lu, Lin, and Lee, 2010; Unger-Saldana and Infante-Castaneda, 2011). Labeling symptoms as an abnormal finding did not necessarily lead to action. The length of time required to recognize a symptom as abnormal and then drawing attention to it resulted in delayed presentation in some patients. Patients who promptly sought help perceived every abnormal breast finding as sufficient to take action. They often attributed abnormal changes to breast cancer. Several studies have shown prompt help-seeking in patients who attribute their symptoms to cancer (Burgess et al., 2001; Bish et al., 2005; Smith et al., 2005; Unger-Saldana and Infante-Castaneda, 2011). In contrast patients who delayed seeking help and endured symptoms required an essential catalyst to stimulate action. In most cases changes of the symptoms especially appearance of pain was the most important facilitator to action. The results of a meta-ethnography of patients' help-seeking experiences for different types of cancer showed that well-known specific symptoms (e.g. a lump) can lead to prompt action, while attribution of symptoms to common ailments is accompanied by delay (Smith et al., 2005; Unger-Saldana and Infante-Castaneda, 2011). Burgess et al. described that

women have different expectations about breast cancer symptom. The absence of pain in patients who consider painful lump to be a symptom of cancer creates false confidence (Burgess et al., 2001). Several studies have shown that painless lump was attributed to not being serious and was more common in delayed presentations (Lam et al., 2009; Taib et al., 2011; Dye et al., 2012). Dye et al (2012) reported that changes in nature of symptoms (e.g. pain, itching) motivated women in Ethiopia after several years delays to seek help (Dye et al., 2012).

The findings of the present study were partly consistent with those of other studies that emphasized the influence of knowledge (de Nooijer et al., 2001; Lam et al., 2009; O'Mahony et al., 2011; Unger-Saldana and Infante-Castaneda, 2011) and perceived risk of breast cancer on symptom assessment (de Nooijer et al., 2001; Adam and Soutar, 2003; Unger-Saldana and Infante-Castaneda, 2011). Inadequate and inaccurate information about breast cancer symptoms and its risk factors was obvious in the narratives of our participants. Although most women seemed to have knowledge of lumps being a symptom of cancer; but they did not consider themselves at risk for breast cancer because, for example they had no family history of the breast cancer. Some studies have highlighted the importance of acceptance of being at risk on symptom interpretation, so that women with family history of breast cancer will perceive themselves to be at risk and attribute their symptoms to more serious causes (O'Mahony et al., 2011; Unger-Saldana and Infante-Castaneda, 2011).

The incidence of breast cancer is relatively low in Iran compare to western countries (Vahdaninia and Montazeri, 2004), thus cancer is considered to be a rare condition and women tend to have little experience with it. Delayed presentation with poor survival is common and overall, public opinion is focused on the incurability of the disease. Most women experience a strong internalized fear of cancer, and distance themselves from the disease, thus not accepting being at risk (Rastad, Khanjani, and Khandani, 2012). The results of a review study suggest that talking about breast as a sexual female organ is culturally taboo in Iran (Babu et al., 2011). Cancer for socio-cultural reasons is stigmatized at times and individuals with cancer disclose it selectively. At times, the patient is not aware of her illness herself and her relatives hide the truth from her (Faridhosseini, Ardestani, and Shirkhani, 2010). Lay consultants often wish to simply make calm the patient by suggesting benign alternatives for her symptoms. Cancer is often considered to be the least likely cause of symptoms by the patient and her consultants (Rastad et al., 2012). Consequently, individual knowledge about breast cancer is limited and they do not attribute cancer to their symptoms. Under such a framework, a discussion of the disease in the popular media by conventional methods is not sufficient to attract interest and provide knowledge to counteract misperceptions about cancer.

In this line Banning and Hafeez (2009) reported that Pakistani Muslim women similarly do not like to talk about their breasts as private organs (Banning and Hafeez, 2009) and Taib et al. described public perception of incurability of cancer as a reason for delay in Malaysia. Breast cancer has a low prevalence in Malaysia, so people

do not consider themselves at risk and they tend to seek help at late stages when a complete cure is much less likely and popular experience imply on the incurability of the disease (Taib et al., 2011).

The present study found that effective interactions influence women's perception and facilitate making decision to seek help. This can be achieved through two main strategies: 1) selective symptom disclosure and 2) being reassured with relatives. Effective interactions were mainly achieved through consultation with professionals which together with relatives' support balanced undesirable emotional reactions and provided guidance and encouragement for serious follow-up. The overall outcome of social interaction, in line with other studies (Burgess et al., 2001; Lam et al., 2009; Lu et al., 2010; O'Mahony et al., 2011; Unger-Saldana and Infante-Castaneda, 2011; Abdullah et al., 2013), was perceived as supportive and very satisfying and led to informational and emotional support. Some consultants as shown in other studies (Gates et al., 2001; Unger-Saldana and Infante-Castaneda, 2011), offered false reassurance based on wrong information. Although social interactions and their consequences were considered as important in some studies, however, effective interactions, being selective in symptom disclosure and socio-cultural issues were not reported in the studies reviewed for this project.

Negative emotional responses are often reported as a common response to the perceived seriousness of the symptom in all type of cancers. Consistent with other studies, while women who attributed the symptoms to minor conditions, ignored symptoms without any emotional response (de Nooijer et al., 2001; Dye et al., 2012), nearly all women who perceive the seriousness of the various forms of fear and concern (Adam and Soutar, 2003; Lu et al., 2010; O'Mahony et al., 2011). In this study, not only understanding the seriousness of the symptoms caused negative psychological reactions, but also in some cases, fear of cancer led to hesitation in accepting the seriousness of the symptoms.

Scoot et al. (2006) reported a close relationship between cognitive and emotional responses in detection of oral cancer symptoms. They explained that initial interpretation of symptoms by patients focused less on the seriousness of the condition and lacked concern about the nature of the symptoms. The interpretation of symptoms and the consequent emotional responses, over time, led to reappraisal of symptoms based on newly acquired knowledge, persistence of symptoms and development of new symptoms (Scott, McGurk, and Grunfeld, 2007).

Positive thinking and reinforcement of religious beliefs were primary strategies to control negative emotions for all age groups in this study. It seemed that older women less clearly expressed their feelings, probably in response to traditional social factors. Most patients assumed that cancer is equivalent to death, thus fear of cancer meant fear of death. Culturally, however, expressing a fear of death in young people was acceptable, while for older women was unacceptable. Older patients emphasized positive aspects of illness as an attempt to control or hide fears; this is an expression of their traditional social beliefs. On the other hand, delay is a cognitive response to preparing

the individual and the family for effective action. Some studies define this as denial.

Denial as a psychological reaction to threatening situations plays an important role in the appraisal process. Some studies have confirmed the role of denial of the seriousness of symptoms in patient delay to seek treatment (de Nooijer et al., 2001; Arndt et al., 2003; Unger-Saldana and Infante-Castaneda, 2011). Others have challenged this assumption and suggested that women who initially ignore symptoms do not actually deny the seriousness, but actively monitor symptom changes to decide when it is necessary to seek help (Burgess et al., 2001; Lam et al., 2009). Granek and Fergus (2012) described denial as an inadequate and humiliating concept to explain the behavior of women when seeking help. They did not observe in their patients any behavior consistent with conventional definition of denial and found that a patient tendency to monitor symptoms was the reason for delayed follow-up (Granek and Fergus, 2012).

The narratives of the patients in this study who delayed seeking help did not indicate that they ignored symptoms, but they monitored the symptoms and consulted others intermittently. This may be defined as "quiescence". Quiescence refers to a situation where a woman, based on her cognitive, psychological, and social interactions, does not find her knowledge sufficient to label a symptom as very serious and threatening; thus, she does not give priority to action and postpone any measures. Such patients see quiescence as a rational to gain more relevant information to be able to face with employer and family obligations and the social consequences of cancer labeling.

Although it is possible to consider positive thinking as a typical and rational strategy when faced with diverse symptoms, delineating the boundaries of optimism confronting the hidden fear of facing the hard reality of cancer is not an easy task. On the other hand, the assumption by cancer researchers that people find themselves under threat of attack (risk of cancer), may be a result of their own biases arising from their biomedical perspectives, an aspect that has received little attention.

In conclusion, the findings of this qualitative study of women with breast cancer symptoms indicates that symptom assessment begin with the discernment of normal from abnormal findings and personal perceptions of the seriousness of the symptoms. Psychological responses and social interactions confirm or redefine the initial symptom appraisal and lead to consolidation of individual decision-making. Insufficient specific breast cancer information, the relatively low incidence of cancer in the community, lack of family history of cancer, strong internalized fear of breast cancer, and its perceived incurability affect risk assessment and ailment labeling. The concept of "seriousness" is greater than simply understanding the pathophysiological cause of a symptom and includes understanding the social consequences of breast cancer, the need to comply with others' opinions and the need to control negative emotions.

This study examined a small number of patients who presented at the Cancer Institute of Imam Khomeini Hospital, Tehran, Iran. This center is a public referral cancer clinic. So the results may not be generalized.

Researchers tried to overcome this limitation by considering maximum variation in sampling. Interviews took place in a hospital environment, supported by medical professionals. It is possible that the subjects avoided expressing some thoughts and beliefs that they deemed are incompatible with the dominant medical discourse. To account for this limitation, interviewer sought to develop a close relationship with the patient. Since qualitative studies rely on participant narrations, they are subject to retrospective recall bias. Researcher tried to elicit only first-hand experiences of the participants in the various stages of symptom encounter, diagnosis, and treatment.

The results of this study are useful in developing training programs by mass media, medical and health professionals who are practicing, and also continuing education programmers for health care professionals. In this study, almost all patients cited mass media, especially television, as their main source of information. To develop effective training programs for media, patients' knowledge and their interpretations of the information provided is essential.

This study revealed that women's knowledge regarding the symptoms, risk factors, screening methods and treatment of breast cancer is limited and, in some cases, is based on misperceptions. It is necessary for mass media educational programs to focus on increasing knowledge about breast cancer and refining general beliefs in a transparent and frank manner. Considering the strong internalized fear of breast cancer and its perceived incurability in women, it is necessary to inform them of the risks of breast cancer, and to offer them promising perspectives about its early diagnosis and treatment. It is also vital for health care providers to increase women's self-awareness and offer them easy and available opportunities for clinical examinations.

In this study, effective social interactions played an important role in symptom appraisal and decision-making for seeking help. There is inadequate knowledge about how people act as consultants and how they can effectively offer supporting roles in such situations. Further study in this area is recommended.

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