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Illness perception of breast cancer in affected women undergoing chemotherapy

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Abstract

Background: The aim of this study was to investigate the various aspects of illness perceptions about breast cancer in affected patients.

Methods: A cross-sectional study enrolled 140 patients with breast cancer in their chemotherapy period within 14 months. The revised Illness Perception Questionnaire (revised IPQ) was used to assess the disease representations of breast cancer. The data were analyzed by SPSS v.18 software.

Results: The mean age of participants was 49.3±10.3 years. There was no significant correlation among the various items of illness perception of breast cancer in the affected patients with the demographic and clinicopathologic stages of the disease (P>0.05). The present study explored breast cancer to identity component 2.1(less symptoms attributed to cancer), timeline component 2.86 (encountered to a acute illness), treatment control 3.21 (less therapeutic belief), illness coherence 3.29 (less knowledge about cancer), serious consequences 2.79 (not attributing too much grave results), personal control 3.43 (illness controllable by the personal measures) and emotional representations 2.90 (emotionally good). Also most of our patients attributed stress as the cause of breast cancer (93.6%).The internal consistency of revised IPQ was 0.84 (Cronbach alpha).

Conclusion: The patients affected with breast cancer perceived their illness to be short with better personal controllability. They had optimistic views towards the personal, familial and social implications of their illness. Also our patients showed less distress, anger and disappointment while being less optimistic about the treatment modalities and less coherent about their illness.

Keywords: breast neoplasm/therapy, chemotherapy, illness perception, revised illness perception, questionnaire (revised IPQ), disease controllability, consequences.

Introduction

When patients are diagnosed with an illness, they generally develop an organized pattern of beliefs about their condition. It is directly influenced by the individual's medical knowledge or from personal experience of others such as family members with similar symptoms or diagnoses [1-4]. Since negative perceptions of cancer patients have been shown to adversely affect the quality of life during specific treatments and also survival of patients, therefore it would be logic to focus on identifying and addressing the

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concerns and needs of these individuals [5-7]. The emotional reactions to disease and ways of adaptation with illness are influenced by the nature of disease and its implications which is determined by intrapersonal, disease-related and environmental factors. The illness perceptions influence the process of decision making and compliance with specific treatments that influence the short- and long term survival of the individual [8-10]. The revised Illness Perception Questionnaire (revised IPQ) uses a self-regulation model of illness to elucidate the important aspects of patients' beliefs that potentially affect the outcome of their illness [3]. The cognitive representations of an illness have five main interrelated components such as: identity of disease, timeline beliefs, beliefs about disease control/cure, consequences and causal beliefs [2,3].

Studies have shown that negative perceptions of illness are associated with increased future disability and a slower recovery, independent of the initial medical severity of the condition [11-14]. In a number of studies, the cognitive behavioral intervention designed to alter patients' illness perceptions have led to significant positive changes in patients' beliefs during hospital stay, early return to work, compliance with screening and therapeutic modalities, better quality of life and longer survival [15-17].

In relation to breast cancer, Leventhal found that the patients' held representations of breast cancer that varied as a reflection of their experience including variations in the type of carcinoma, natural history of disease and treatment type [18]. Also Buick found that illness perceptions of breast cancer were important predictors of psychosocial response to treatment independent of objective illness severity [19] which was also confirmed by Solar et al [20]. Causal beliefs about breast cancer have been associated with patients' adjustments to illness, too [4,21]. Despite being one of the most common cancers in Asia, breast cancer is diagnosed in more advanced stages with limitations in the implementation of large scale screening mammography. The delay in presentation of breast cancer patients is mainly attributed to social-cultural perceptions of the disease, poverty and the strong influence of traditional medicine [15]. Although the design of a cognitive behavioral intervention would benefit the patients' outcome, but alteration of the misconceptions about screening and treatment options for breast cancer necessitates the review of illness perceptions of breast cancer in the society [22,23]. Therefore, this study used the revised IPQ to explore the illness representations of breast cancer in affected women in Iran.

Methods

Over a period of 14 months from March of 2008 to May of 2009, one hundred and forty women with breast cancer were enrolled in this cross-sectional study of illness perceptions about breast cancer. All patients were referred to Reza oncology center for post surgery chemotherapy of breast cancer. The study was approved by the ethics committee of Azad University of Medical Sciences in Mashhad. All patients were examined by identical oncologist. The revised IPQ questionnaire was translated into Persian and test and retested for the internal consistency was used to evaluate disease representations of breast cancer among enrolled patients. The IPQ was filled with consent of the patients after the thorough explanation of the goals of the study. Individuals indicated their degree of agreement or disagreement on a 5-point scale ranging from “strongly disagree” to strongly agree” and the total score was divided by the total number of questions in that segment. In identity component patient responses were consisted of words such as: never, occasionally, usually and always which were scored as 0,1,1,1 and added together. The items of the revised IPQ about breast cancer are shown in Table 1 .The demographic characteristics of patients were ascertained in the beginning of the questionnaire.

Statistical Analysis

The data were analyzed by SPSS v.18 software and expressed as mean ± Standard

Table 1. Illness perceptions-revised questionnaire used in the study of illness representations of breast cancer

Factor, item number and item description	
Identity:	
Pain	
Mass	
Tenderness on touch	
nipple discharge	
Heaviness	
Time line-acute/chronic	
IPQ 1	*My breast problem will last a short time.*
IPQ 2	*My breast problem is likely to be permanent rather than temporary.*
IPQ 3	*My breast problem will last a long time.*
IPQ 4	*I have the power to influence my breast problem.*
IPQ 5	*My actions will have no effect on the outcome of my breast problem*
Treatment control	
IPQ 6	*There is very little that can be done to improve my breast problem.*
IPQ 7	*Treatment will be effective in treating my breast problem.*
IPQ 8	*The negative effects of my breast problem can be prevented by treatment.*
IPQ 9	*Treatment can control my breast problem.*
IPQ 10	*There is nothing that can help my breast problem.*
Illness coherence	
IPQ 11	*My breast problem is puzzling to me*
IPQ 12	*My breast problem is a mystery to me.*
IPQ 13	*I don't understand my breast problem.*
IPQ 14	*My breast problem will pass quickly.*
IPQ 15	*My breast problem will last for the rest of my life.*
IPQ 16	*My breast problem will improve in time*
Serious consequences:	
IPQ 17	*My breast problem is a serious problem*
IPQ 18	*My breast problem has major consequences on my life*
IPQ 19	*My breast problem strongly affects the way others see me*
IPQ 20	*My breast problem causes the separation with my husband*
IPQ 21	*My breast problem does not have much effect on my life*
Personal control	
IPQ 22	*There is a lot I can do to control my breast problem*
IPQ 23	*What I do can determine whether my breast problem gets better or worse*
IPQ 24	*The course of my breast problem depends on me*
IPQ 25	*Nothing I do will affect my breast problem*
IPQ 26	*I have a clear picture or understanding of my breast problem*
Emotional representations:	
IPQ 27	*I get depressed when I think about my breast problem*
IPQ 28	*When I think about my breast problem I get upset*
IPQ 29	*My breast problem makes me feel angry*
IPQ 30	*My breast problem does not worry me*
IPQ 31	*My breast problem makes me feel afraid*
Causal attributions	
Stress	
Family problems	
Smoking	
No term pregnancy	
Heredity	
Marriage	
Too much work	
Pregnancy	
Contraceptive medication	
Early menarche	
Divorce	
Depression	
Dietary factors	
Irradiation	
Late menopause	

deviation (SD). The analysis of variance (ANOVA) and t-student test were used for normally distributed variables and Kruskal-Wallis test used for analysis of non-normally distributed ones. The categorical data were statistically analyzed by Pearson Chi-square and Fischer's exact tests. We considered P values of <0.05 as statistically significant.

Results

The mean age of participants was 49.3 ± 10.3 years. The demographic characteristics of the study are shown in Table 2. Eighteen patients were clinically classified as stage I (12.6%),

Table 2. The demographic characteristics of 140 breast cancer patients enrolled in Illness Perceptions study about breast cancer

Demographic item	Value
Age (mean±SD)	49.3±10.3 yrs
Sex-No (%)	
Female	140 (100)
Male	0 (0)
Marriage status- No (%)	
Single	2 (1.4)
Married	138 (98.6)
Employment- No (%)	
Unemployed	104 (74.3)
Employed	36 (25.7)
Education- No (%)	
Illiterate	21 (15)
Primary school	49 (35)
High school	45 (32.2)
University degree	25 (17.8)
Family history of cancer- No (%)	
No history	105 (75)
Breast	15 (10.7)
Other site	20 (14.3)

thirty-five in stage IIA (25.3%), forty-one in stage iiB (29.5%), twenty-eight in stage IIIA (20%), three in stage IIIB (2.1%), nine in stage IIIC (6.3%) and the remainder six cases were in stage IV (4.2%). Invasive ductal carcinoma comprised 90% of the breast cancers while the remaining was invasive lobular carcinoma. The internal consistency (Cronbach alpha) of the revised IPQ was 0.84 in our study. There was no statistically significant correlation among the various items of illness perception of breast cancer in affected patients with the demographic and clinicopathologic stages of the disease (P>0.05). The illness representations of breast cancer in the enrolled patients are depicted in Table 3 and 4.

Discussion

The new diagnosis of an illness would be followed by certain beliefs about the attributed symptoms, duration course, personal control of illness, treatment control of illness, illness coherence and risk factors attribution in the patient and other people influencing the patient [2,3,4]. It is verified that the optimistic attitude toward the disease either primarily or by secondary clinical intervention has been followed by better compliance with treatment and in some cases by better treatment response [15-17, 20,22]. There was no statistically significant correlation among the various items of illness perception of breast cancer in affected patients with the demographic and clinicopathologic stages of the disease as seen in Buick study, Soler et al and Montazeri review [13,14,20]. In the identity component, our patients attributed less symptoms to breast cancer than their counterparts in Buick et al study [24], thereby showing less vigorous search for symptoms attributable to their diagnosis of breast cancer. Also, women enrolled in this study perceived their illness to be shorter duration than the women at high risk of breast cancer in G. Rees et al and Naus et al studies [25,26]. This positive view of our patients might lead to better compliance to the treatment and less stress. There was also good personal beliefs about the controllability of breast cancer as shown by Soler et al and Coughlin studies [17,20] and better personal beliefs as compared to medical benign conditions such as diabetes, chronic fatigue syndrome and pain in Weinman et al study [3] and women at higher risk of breast cancer studied by G. Rees et al [25]. While our patients believed less in

Table 3. Illness Perceptions about breast cancer in 140 patients with breast cancer

Components of illness perceptions	Mean value (SD)	95% confidence interval for mean	Minimum value	Maximum value
Identity	2 (1)	—	0	5
Time line (acute/chronic)	2.86 (0.24)	2.82-2.90	1.80	3.80
Treatment control	3.21 (0.21)	3.17-3.21	2	4.4
Illness coherence	3.29 (0.44)	3.21-3.36	2.33	4
Serious consequences	2.79 (0.34)	2.73-2.84	1.80	3.80
Personal control	3.43 (0.29)	3.38-3.48	2.40	4.20
Emotional representations	2.90(0.52)	2.82-2.99	1.80	4.40

Table 4. Causal attributions of breast cancer in 140 patient with breast cancer

Causal attributions of breast cancer	No of patients (%)
Stress	131(93.6)
Family problems	20(14.3)
Smoking	0(0)
No term pregnancy	4(2.9)
Heredity	23(16.4)
Marriage	3(2.1)
Too much work	67(47.9)
Pregnancy	7(5)
Contraceptive medication	20(14.3)
Early menarche	7(5)
Divorce	0(0)
Depression	12(8.9)
Dietary factors	13(9.3)
Irradiation	0(0)
Late menopause	0(0)

the treatment control of their disease as were also shown in the study of Mandelblatt et al and Masi studies [16,22] which was in contrast to the healthy high risk population and normal risk healthy women in the study of G. Rees [25]. This aspect of our research might necessitate clinical interventional studies to make better decision about our patients toward treatment modalities as was emphasized by Mandelblatt et al and Masi studies [16,22], and to improve the quality of life and survival in breast cancer patients. Patients in the present study showed also more optimistic views toward the personal, familial and social implications for their disease in contrast to the healthy high risk and healthy normal risk women in G. Rees et al study [25]. The same conclusion was applicable to perception of consequences for benign conditions studied by Weinmann et al [3]. But our patients have less coherent understanding of their disease than the healthy women at higher risk for breast cancer in G. Rees et al study [25]. This was also found in the study of African-American women with breast cancer in Masi et al study [22]. This should prompt our public-health system to change and make better their attitude towards open and better communication with the breast cancer population. The last but not the least component of the revised IPQ was devoted to emotional representations of breast cancer in which our patients showed less distress, anger and disappointment as was shown in Meyerowitz et al study, too [27]. Stress showed to be the most common attributing factor related to breast cancer in our patients. It seems plausible to study the roles of spirituality and the good support between the patient and physician on the appraisal of the disease in the patients with breast cancer as they are shown to be associated with better social support and coping strategies following breast cancer diagnosis [9,23,28,29].

Conclusion

This study showed the need in our public-health system for changing and making better their attitude towards open and better communication with the breast cancer population on the level of clinicians, oncologic nurses and public media. This would lead to less confusion about the diagnosis of breast cancer followed by less stress, adoption of better coping strategies and more realistic expectations in the women affected with breast cancer. These clinical interventions would eventually result in better quality of life during specific cancer therapies as well as making better the long-term survival in this group of patients. Finally, it is highly recommended to pursue this kind of studies to demonstrate ways towards implementation of social and clinical interventions in order to erase the misconceptions about diagnosis, treatment and prognosis of breast cancer which could lead to better compliance with screening and treatment modalities in our society.

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