Exploring Relationship between Mental Disorders and Coping Strategies in Patients with Breast Cancer

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ABSTRACT

Objective: Breast cancer as a most common invasive cancer in women, provoking mental disorders for patients. To adjust with this situation, patients use kind of coping style. In present study, we aimed to determine the relationship between mental disorders and coping style in women with breast cancer.

Methods: This research was a correlational study. 127 women among all women with breast cancer who were referred to health centers in the city of Kermanshah randomly selected. To estimate psychological distress, DASS- 42 questionnaire, and coping strategies Billings and Moos questionnaire (1981) are used. Interactive effects were assessed by using the spss 17.

Results: results show that there are significant positive relationships between anxiety, stress and depression with avoidance coping strategy. And high level of anxiety and depression provoking emotion coping strategy.The results of the stepwise regression showed that depression and stress are suitable predictors of avoiding coping style whereas to predict emotion coping strategy, stress and anxiety are valid.

Conclusion: Mental disorders can be one of the important factors in characterize of coping style. Therefore our result demonstrates the importance of mental disorders on coping style in breast cancer.

1. Introduction

Breast cancer is the most common invasive cancer in women (Ho, 2013). Approximately 4.4 million women worldwide live with the diagnosis of breast cancer (Jemal, 2008). In 2008, women diagnosed with breast cancer were accounted for 23% of total cancer cases, and 14% of total cancer deaths were resulted from this cancer (Jemal, 2011). According to the annual reports from Iran cancer center, there are more than 51000 cancer diagnosis and 35000 deaths because of this cancer in the Iran (Given, 2004).

For several reasons, breast cancer is especially important among women. The most important reasons are the high prevalence of breast cancer in developed and developing countries and being the second cause of cancer death among women (Paterson, 2013; Hadi, 2009).

As cancer treatment has tremendously progressed, the development of cancer is not necessarily a death sentence. Nevertheless, approximately half of the cancerous patients die even today (Akechi, 2010). Thus, cancer diagnosis is often accompanied by an uncomfortable and increased awareness of one's mortality, resulting in stressor (Letho, 2010).

Diagnosis of the breast cancer does not only include physical condition, but also social and psychological changes in patient and their family lives (Hadi, 2009). Being diagnosed and treated for cancer is emotionally

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and physically challenging (Fagundes, 2012). Breast cancer imposes specific challenges because of its impact as a life-threatening disease; its intensive surgical and medical treatments; changes in sexuality, femininity, body image, and maternal issues after mastectomy; removal of an important cultural symbol of femininity and an intimate part of the patient's self-esteem; and fears and concerns regarding death and disease recurrence (Paterson, 2013; Hassanikhiabany, 2011). In fact, diagnosis of breast cancer is regarded as the most stressful situation in women's life (Antoni, 2013; Da Silva, 2010; Mahammadyfar, 2012) that results in changing their physical, emotional, spiritual, financial, and occupational life (Ho, 2013; Shoma, 2009).

Women who experience breast cancer encounter with situation, which limit and change their social life (Dejman, 2008). This stress affects many aspect of person's life for a long time and resulting in serious cognitive, emotional, and behavioral consequences (Mahammady far, 2012). Approximately one-third of patients with cancer suffer from a mental disorder at various stages in the disease trajectory (Burgess, 2005; Mehrinzhad, 2010). Many studies showed that depression and anxiety are important reactions accompanied by cancer diagnosis (Paterson, 2013; Hadi, 2009; Akechi, 2010; Burgess, 2005; Hassanikhiabany, 2011).

Recurrence is an extreme difficulty about breast cancer, which is often associated with psychological distress, including higher rates of anxiety and depressive disorders (> 40%). Depression is one of the strongest determinants of health-related quality of life, which can influence medical care and participation in the treatment (Tighea, 2011). Depression is a reaction resultant of person's image for losing an important thing in his life (Wang, 2012).

Women diagnosed with breast cancer fear bad physical appearance and disfigurement, uncertainty regarding recurrence and fear of death, quality of sexual life, hair loss from chemotherapy, weight gain or loss, and the difficulty of partner in understanding her feelings (Hadi, 2009; Wang, 2012).

Folkman and Lazarus theory (1984) about stress and mental health emphasizes on stress because of person s' situations, which cause them to react and use coping strategy (Vodermaier, 2011).

Coping is generally conceptualized as a cognitive and behavioral strategy used to manage threatening situations or problems (Prasertsria, 2011; Hamiltan, 2011; Pedram, 2010; Burgess, 2005). Researchers recommend variety of ways of coping such as distancing coping, avoidance coping, and religious coping (Pedram, 2010). They also tend to dichotomize these coping strategies as active vs. passive or emotion-focused vs. problem-focused, especially when they examine the impact of coping on psychological health (Burgess, 2005; Pedram, 2010). Lazarus and Folkman (1984) emphasized that there are two major functions of coping; problem-focused and emotion-focused (Sadeghi, 2007: 92-94).

The problem-focused coping is defined as a try to change the person's condition by acting on the environment or oneself. In this kind of coping strategy, a person focuses on stressor and tries to do effectively. Whereas emotion-focused coping tries to change the meaning of what is happening that mitigates the stress even though the actual conditions have not changed (Sadeghi, 2007). A key tenet of coping is that individuals with different background have different coping strategies in the same situation (Antoni, 2013; Mehrinezhad, 2010; Prasertsria, 2011).

The use of coping strategies depends on stressor, and whether the stressor is controllable or uncontrollable (Pedram, 2010). For controllable stressor, active or problem-focused coping may be helpful, while for uncontrollable stressor, active coping mechanism may be less effective (Pedram, 2010). Researches show that individuals who use emotion-focused coping have higher rate of depression and anxiety, while the people who use active and problem-focused coping strategies experience low rate of depression and anxiety (Vodermaier, 2011; Pedram, 2010). Generally, problem-focused coping may be linked to better health outcomes, whereas emotion-focused coping is possibly associated with poor health outcome (Burgess, 2005).

Over the past 20 years, with an increase in the number of survivors of cancer because of the advances in treatment and early detection, scientific attention has turned to the patients' quality of life and their psychological function during and after treatment, rather than solely to the issues of disease-free and overall survival (Paterson, 2013). Breast cancer treatment provokes mental and physical health problems that affect quality of life (QOL). Even when treatment-related problems subside, many breast cancer survivors report difficulties, including psychological distress, fatigue, occupational disruption, and loss of physical activities (Fagundes, 2012).

Therefore, attention to this aspect of cancer, especially in breast cancer and its mental outcomes should be the focus of scientific researches. To this effect, this research

is carried out to identify psychological factors that determine coping strategies in women diagnosed with breast cancer.

2. Methods

This descriptive-correlative and cross-sectional study was conducted at Kermanshah, west Iran, during 2011-2012. The population of this study was all women with breast cancer who were referred to health centers in the city of Kermanshah, so 127 patients (n=127) with breast cancer one year of follow up who were on routine visits, were randomly selected. Exclusion criteria included previous breast or other cancer, age younger than 15 or over 60, and identified psychological disorder.

The purpose and the contents of the study were explained to the patients. Data were collected through face-to-face interview with each participant to obtain relevant information by using a structured questionnaire consisting of three major sections: sociodemographic, psychological disorders, and coping style factors.

Sociodemographic characteristics in the questionnaire comprised age, educational degree, occupation, and income. In addition, the patients were asked to report their history of psychological disease.

To evaluate patients' psychological disorders, we used Depression, Anxiety and Stress Scale (DASS-42 questionnaire). This is a self-report questionnaire, developed by Lovibond and Lovibond (1995) that has 42 items, including 14 items for depression, 14 items for anxiety, and 14 items for stress. Sub-scale scores of anxiety, depression, and stress were calculated separately. Lower scores indicate higher mental health, while higher scores indicate psychological disorders. The Iranian version of DASS-42 has been developed and validated in previous studies (Sadeghi, 2007). To validity, in a nonclinical research on 420 Iranian people, internal consistency coefficients for 3 measures of depression, anxiety, and stress were 0.93, 0.90, and 0.92, respectively. And to Reliability, test-retest coefficients for the 3 scales were 0.84, 0.89, and 0.90, respectively (Asghari-Moghadam, 2009).

Coping strategies questionnaire was designed by Billings and Moos (1981). This questionnaire consists of 6 items for knowing-focused coping, 6 items for active behavior-focused coping, and 6 items for avoiding-focused coping. In addition, this questionnaire includes 8 items for problem-focused coping and 11 items for emotion-focused coping. A 4-point Likert-type scale was used for each item, ranging from 0 to 3. Poorshahbaz estimated the coefficient´s validity (internal consistency coefficients) of questionnaire about 0.78.

It should be noted that, avoiding-focused coping is a sub-group of emotion-focused coping, but because of the importance and frequency of its use, this strategy has been investigated separately and rest of the emotion strategies have been examined as emotion-focused coping. Also knowing-focused and active behavior-focused coping are sub-groups of problem-focused coping, however, because of their importance, they have been investigated separately from problem-focused coping.

Data were analyzed using SPSS 16. Parametric tests such as Pearson correlation coefficient; step-wise multiple regressions were calculated to analyze the data.

3. Results

A total of 127 women diagnosed with breast cancer participated in the research. Results showed that the mean ± SD age of the participants was 48.2 ± 10.1 years, and most frequency of age group belongs to 31-45 women years old (38.6%) and 32.3% were 46-55 years old. Only 3.1% of patients were 15-30 years old while 26% of them were 55-75 years old. Also women participants in study have different level of education and social status (See table 1). As you can see, only 9% of patients had academic education and 24.4% of them were illiterate, 23% and 13% had primary and secondary education, respectively. Most of patients were from average class (66.1%). 11% and 22% were from low and high class, respectively.

Results of the correlation (Pearson' r) between psychological disorders (stress, anxiety and depression) and coping strategies are shown in table 2. In the first column, the accounted mean and SD of mental disorders are presented. In the second column, correlation coefficient (Pearson' r) is accounted. There is a significant relationship between the stress and avoiding-focused coping ($P<0.001$), also there is a significant relation between stress and emotion-focused coping ($P<0.05$). There is a significant relation between the anxiety and avoiding-focused coping ($P<0.05$), and a significant relation between anxiety and emotion-focused coping ($P<0.05$). There is a significant relation between depression and avoiding-focused coping ($P<0.05$) too.

Also in order to predict coping strategies on the basis of psychological disorders (depression, anxiety and stress), regression analysis has been applied.

Table 1. Participant characteristics (n= 127).

Characteristic (mean (SD) or %)	Mean, SD	%	N
Age	48.21 (S.D=10.16)		127
15-30		3.1%	
31-45		38.6%	
46-55		32.3%	
55-75		26%	
Education	2.78 (S.D=1.41)		127
Illiterate		24.40%	
Primary		23.60%	
Guidance		13.40%	
High school		29.10%	
Academic		9.40%	
Social status	2.11 (S.D=0.57)		127
High		22.80%	
Average		66.10%	
Low		11.10%	

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The results of the stepwise regression analysis for avoiding-focused and emotion-focused coping have been shown in tables 4 and 5.

As it can be seen in table 3, to predict avoiding-focused coping, depression was entered as the first step, which was alone accounted for 8% of the variance in total avoiding-focused coping strategies (R^2 Adjusted). The statistical factor F in the level of 0.05 was equal to 4.11 meaningful for the conformity variant. In the second step of regression, depression and stress together predicted 14% of the avoiding-focused coping strategies variance. The statistical factor F in the level of 0.001 was significantly equal to 9.12. The pure percent of stress in predicting the avoiding-focused coping strategies level was equal to 6%. The rest of the variance of avoiding-focused coping strategies was dependent to other variables that were not entered in this study.

Table 4 shows that to predict emotion-focused coping, anxiety was entered in the first step, which was alone accounted for 4% of the variance in total emotion-focused coping strategies. The statistical factor F in the level of 0.001 was equal to 22.39 meaningful for the conformity variant. In the second step of regression, anxiety and stress together predicted 10% of the emotion-focused coping strategies variance. The statistical factor F in the level of 0.001 was significantly equal to 26.34. The pure percent of stress in predicting the emotion-focused coping strategies level was equal to 6%. The rest of the variance of emotion-focused coping strategies was dependent to other variables that were not entered in this study.

4. Discussion

Cancer can be characterized as a chronic disease accompanied with variety of physical problems and mental disorders for patients (Papastavrou, 2012). This study aimed to assess the moderating effects of psychological disorders, which originated from the diagnosis in Kermanshah patients with breast cancer on their coping style. The results showed that women with breast cancer experience mental disorders (stress, anxiety, and depression) and the disorders have a significant positive rela-

Table 2. Descriptive statistics and correlations of psychological disorders with coping strategies (n=127).

Variable	Descriptive statistics		Correlations				
	Mean	SD	Knowing-focused coping	Behavior-focused coping	Avoiding-focused coping	Problem-focused coping	Emotion-focused coping
Stress	22.22	9.63	13.5	0.011	0.151	0.360**	0.118	0.377*
Anxiety	7			-0.061	-0.012	0.053*	-0.023	0.232*
Depression	12.33	8.5		-0.107	-0.068	0.095*	-0.071	0.107

P<0.001. **
P<0.05.*

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Table 3. Stepwise multiple linear regression: Predicting avoiding-focused coping strategies on mental disorders in Kermanshah women (n=127).

Step	Predicting variant	Std. Error	Beta	B	t	R	R^2	Adjusted R^2	F
1	Depression	0.24	0.095	0.168	2.029*	0.095	0.09	0.08	4.115*
2	Depression stress	0.26	0.231	0.407	3.930**	0.197	0.16	0.14	9.128**
		0.65	-0.220	-4.110	-3.745**				

Dependent variable: avoiding coping strategies.
**P < 0.001 *P < 0.05

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tionship with their coping strategies. Many researchers emphasized on these results in their studies. Patients diagnosed with breast cancer are confronted with a severe stressor that can result in psychological distress (Iwamitsu, 2005). The latter may develop into several psychological symptoms such as depression, anxiety, and other forms of psychological morbidity (Reynolds, 2000; Landmark, 2001; Coward, 2004). Studies indicated that 20% to 35% of women with breast cancer showed a significant level of distress (Golden-Kreutz, 2004; Ell, 2008; Hegel, 2006). In women with early breast cancer, the prevalence of depression, anxiety, or both in one year after diagnosis is around twice that of the general female population (Burgess, 2005).

Also in our study we found that patients with high rate of depression, anxiety, and stress used emotion-focused and avoiding-focused coping strategies. In addition, the regression analysis showed that stress had an important role in determining the coping style. Our findings are in line with other studies. For example, Peterson et al., in their study found that stress plays an important role in determining the confronting responses. When people face a condition that cannot evaluate it and are incapable of overcoming it, they may choose some methods to avoid direct confrontation with the main problem. Also our findings were consistent with several previous studies (Carver, 1993; Kershaw, 2004). These results suggested that women who reported using more active coping like "escaping coping behaviors" and "abreaction coping behaviors" (two kinds of emotion-focused coping strategy) experienced more anxious and depressive symptoms. Bouteyre, Maurel and Bernaudi (2007) in their study on daily hassles and depressive symptoms among first year psychology students at French University found that emotion-focused coping was positively correlated with depression (Pedram, 2010). Another study was conducted by Solomon, Avitruz, and Mikulincer (1999) who found emotion-focused coping are related to the presence of psychiatric symptoms.

Although results of our study showed that mental disorders are predictors of avoiding-focused coping strategies and similar finding reported (Wijindaele, 2007), but some researchers found that there is no correlation between mental disorders and avoiding-focused coping strategies (Mahammadyfar, 2012; Wang, 2012).

Our study has some limitations too. First, it is a cross-sectional study and unlikely to determine the cause-effect relationships of the psychosocial factors with the anxiety and depressive symptoms. Second, there were not many women with breast cancer in Kermanshah and also all of them did not like to participate in the study, therefore, our sample was small. More studies are needed to further clarify the interaction between mental disorders and coping strategies.

In conclusion, the present study indicates that coping styles used by the Kermanshah women with breast cancer are affected by the mental disorders. Healthcare professionals should be aware of the different coping mechanisms that women use when diagnosed with can-

Table 4. Stepwise multiple linear regression: predicting emotion coping strategies on mental disorders in kermanshah (n=127).

Step	Predicting variant	Std. Error	Beta	B	t	R	R^2	Adjusted R^2	F
1	Anxiety	0.41	0.232	0.295	4.732**	0.232	0.053	0.041	22.39**
2	Anxiety Stress	0.40	0.254	0.324	5.364**	0.342	0.117	0.10	26.34**
		0.27	-0.254	-0.339	-5.360**				

Dependent variable: Emotion Coping Strategies
**P<0.001 *P<0.05

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cer. Integrating a coping strategy into the treatment regimen would be an important milestone in the palliative care of patients with breast cancer.

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