The Relationship between Resilience and Cognitive Emotion Regulation and Obsessive Rumination of Woman with Breast Cancer

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Abstract
The goal of this study is to investigate the relationship between resilience and cognitive emotion regulation and obsessive rumination of woman with breast cancer. Research plan is correlational. The sample includes 150 women with breast cancer that selected randomly and research instruments include the resilience questionnaire by Connor and Dawidson (2003), cognitive emotion regulation questionnaire by Garnefsci and Alt (2001) and obsessive rumination questionnaire by Nolen, Hocsma, and Maru (1991). Pearson simple statistical correlation coefficient and multiple regression method and analysis method are used for analyzing the results. The result showed that there is meaningful relationship between negation resilience and cognitive emotion regulation and obsessive rumination of woman with breast cancer. Also, regression result showed that negation resilience and cognitive emotion regulation are predicting obsessive rumination of woman with breast cancer and cognitive emotion regulation is the best negation prediction of obsessive rumination in woman with breast cancer.

Keywords: resilience, cognitive emotion regulation, obsessive rumination

Introduction
Cancer is considered as one of the most important disease of this century and the second leading cause of death after cardiovascular diseases. This disease is characterized by abnormal cell shape change and loss of cell differentiation. Cancer as an incurable crippling disease and refractory in the community and the subsequent diagnosis of anxiety and depression caused by unrealistic fear of death and social energy reduced, so that the need for frequent and ongoing concerns for the patients and their families leads a person towards mental disorders (Atar Shoshtari, 2012). Among cancers, breast cancer is the most common cancer in women and the most common cause of death in 40 to 44 years old women. Psychological disorders in breast cancer patients with psychological, physical, social-emotional, cognitive problems and their diversity will continue when coping strategies such as the preservation of the causes of conflict that these disorders affect patient's self-esteem and increase negative information about themselves and encounter patients with several problems (Wells, 2009).

In these patients, the pain and chronic pain creates different problems. Patients suffering from chronic pain usually faced with depression, interpersonal distress, sleep disturbance, fatigue, emotional problems, cognitive, and physical and reduced psychological functions. Gasma as a significant part of the population in 1990 reported that women with breast cancer suffer from depression, the incompatibility of functional flexibility (resiliency), social stress and family environment. In general, in people with cancer unusual psychological distress is increased (Mirzamani, Safari, Heli Saz and Sadidi, 2007). One of the psychological problems is rumination. Obsessive rumination as permanent employment is known as an idea or theme and thinking about it and a class of conscious thoughts that revolve around an axis is determined. These thoughts
repeated. The involuntary thoughts enter consciousness and divert attention and goals (Joorman, 2010).

In fact, obsessive rumination is a passive collection of thoughts that has repetitive aspect and focuses on the causes and consequences and prevents symptoms and negative thoughts and increases adaptive solution (Khosravi et al., 2008). Obsessive rumination can be the foundation of patient and includes ideas that endlessly are reviewed and despair about the future and negative assessment of oneself affect the people and patient's motivation (Loo et al., 2014). Patients with breast cancer due to deaths have obsessive rumination disease and often lack of the resiliency and flexibility, and control of disease problems that are usually less severe and they do not have control over their lives or their fate is out of control (Navid & Rathus, 2007, Trans: Seyed Mohamadi, 2010). One of the important psychological aspects of the patients is affected by the disease and the stress caused by the perception of the disease and is associated with obsessive rumination of these patients and the functional flexibility or resilience of these patients. Malachi (2013) showed that functional flexibility of breast cancer patients was significantly lower than the patients with other chronic patients.

Sibret (2011) states that the resilience can deal with changes in everyday life. In other words, resilience means to protect the health and energy when a person is placed under the influence of psychological and physical pressure. Resilience resistance is against threatening injuries or conditions (Ismail Khani, Ahadi & Mazaheri, 2009). Resilience can lead to hope in clinical practice and its major advantage is that the person will know that most people will never put tough conditions and not surrender easily neck (Steven, 2014). In addition, women with breast cancer have difficulty in cognitive emotion regulation because they have negative feel and their emotions in some ways are disrupted. Therefore, we can say obsessive rumination of women with breast cancer can be associated with the lack of emotional adjustment because the ability of person to control emotions is one of the most important capability and emotion regulation causes the person is always in a state of emotional calm (Thompson, 2010).

It is said that emotion regulation plays an important role in coping with people and with stressful life events. The results of several studies suggest that people's capacity have effective regulation on the emotions of joy, psychological, physical, interpersonal relationships and affect the mental health (Hassani Azadfallah, Rasoulzadeh & Ashayeri, 2012). However, women with breast cancer have the ability to control and emotion regulation does not have physical complaints because of frustration, anger, frustration in interpersonal relationships and marriage, isolation, depression, isolation, low self-esteem (Malachi, 2013). In the end, the best way to get psychological pressure and problems of breast cancer is to get a clear picture of the psychological and emotional harm of patients. Examining the factors associated with obsessive rumination of these patients has high mortality consequences on society, people and the doctors in charge of medical and psychological treatment to the addition of non-pharmacological methods because the disease is common in the community and among the women suffering from breast cancer. Preoccupation and worry in these patients reduce flexibility in these patients reinforcement as they set the kind of excitement and eventually provide a better life quality for these patients.

Therefore, this study considers the issue "whether there is a relationship between resilience and cognitive emotion regulation by women's obsessive rumination with breast cancer?"

**Research hypotheses**

H1: there is a relationship between resilience and obsessive rumination of women with cancer.
H2: there is a relationship between cognitive emotion regulations and obsessive rumination of women with breast cancer.

H3: there is a relationship between the resilience and cognitive emotion regulation which can predict obsessive rumination of women with breast cancer.

**Methodology**

According to the purpose and nature of hypotheses and administrative facilities available to the subject, this study is descriptive and correlational. The population of this study are all women with breast cancer in Imam Khomeini hospital of Tehran who were admitted in 2015 with no mental retardation, mental illness and psychosis, and in the absence of chemotherapy.

The sample consists of 150 women with breast cancer who were selected randomly and according to Morgan. First, a list of patients with breast cancer referred to the hospital for a week which include 252 patients is prepared and then according to Morgan they are randomly sampled and questionnaires are delivered to patients. Instruments include:

A) Resilience Inventory: Conver and Deividson (2003) prepared questionnaire to assess resilience. The scale consisted of 26 items in a Likert scale between zero (false) and five (always right) (Hosseini, 2012). Shakerinia and Mohammad Pour (2010) investigate the reliability of the questionnaire through Cronbach's alpha which is 0.90. Mashal Poor (2010, cited in Shakerinia and Mohammadpour, 2010) in a study by correlating it with Ahvaz hardiness scale and 0.64 correlation coefficient with significant level (p <0.001) showed that this questionnaire's credibility is relatively high. In another study, Hosseini (2012) through Cronbach's alpha calculated reliability coefficient which was 0.87. In the present study, the calculated reliability coefficient through Cronbach's alpha is 0.84.

B) Emotion cognitive regulation questionnaire: the questionnaire (CERQ) is prepared by Garnefski and Karaaij (2001) which is a multidimensional questionnaire that is used to identify cognitive coping strategies after experiencing negative events or situations. This is a self-report instrument that has 36 items and 9 subscales of cognitive strategy, casting blame, acceptance, rumination, positive refocusing, refocusing planning, positive reappraisal, less than a number, exponential and another disaster is casting blame. Scale scores range from 1 (almost never) to 5 (almost always). Each subscale consists of 4 items (Garnefski & Karaaij, 2006; cited in Besharat, 2009). Besharat (2009) questionnaire reliability with Cronbach's alpha for subscale from 0.67 to 0.89 reported. The correlation coefficients are reported between the scores of participants in two sessions spaced from two to four weeks for the scale of the 0.57 to 0.76 at level 0.001. In the present study, the calculated coefficient of reliability through Cronbach's alpha is 0.81.

C) Ruminative response questionnaire: the questionnaire is prepared by Nolen Hoksma and Morrow (1991) and is translated by Bagherinejad and colleagues (2010). The scale of the negative emotional reactions and two subscales of ruminative responses and distracting responses of made sense that each includes 11 words are evaluated. The questionnaire includes 22 items that are scored according to Likert scale from 1 (never) to 4 (very often) (Bagherinejad et al., 2010). In the study of Bagherinejad and colleagues (2010) questionnaire reliability calculated by Cronbach's coefficient is 0.90 and for its dimensions are 0.92 and 0.89. The validity of the questionnaire correlated with beliefs is 0.65 at 0.001 level that shows high validity. In the present study, calculated reliability through Cronbach's alpha coefficient is 0.80.

**Findings**

The results of statistical indicators namely standard deviation and number of participants for all the variables and inferential findings are presented in the table below.
Table 1: Mean, Standard deviation of resilience, cognitive emotion regulation and obsessive rumination

<table>
<thead>
<tr>
<th>Indices</th>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td></td>
<td>45.72</td>
<td>2.98</td>
<td>150</td>
</tr>
<tr>
<td>Cognitive emotion regulation</td>
<td></td>
<td>125.59</td>
<td>3.99</td>
<td>150</td>
</tr>
<tr>
<td>Obsessive rumination</td>
<td></td>
<td>71.67</td>
<td>2.15</td>
<td>150</td>
</tr>
</tbody>
</table>

H1: there is a relationship between resilience and obsessive rumination of women with cancer.

Table 2: The relationship between resilience and obsessive rumination of women with breast cancer

<table>
<thead>
<tr>
<th>Criterion variable</th>
<th>Number</th>
<th>Obsessive rumination</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>150</td>
<td>-0.21</td>
<td>0.007</td>
</tr>
</tbody>
</table>

As can be seen in Table 2, the correlation coefficient of resilience and obsessive rumination of women with breast cancer is $r=-0.21$ which is significant in 0.007. In other words, there is a significant negative relationship between the resilience and obsessive rumination of women with breast cancer. As a result, the first hypothesis is confirmed.

H2: there is a relationship between cognitive emotion regulations and obsessive rumination of women with breast cancer.

Table 3: The relationship between cognitive emotion regulation and obsessive rumination of women with breast cancer

<table>
<thead>
<tr>
<th>Criterion variable</th>
<th>Number</th>
<th>Obsessive rumination</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive emotion regulation</td>
<td>150</td>
<td>-0.22</td>
<td>0.005</td>
</tr>
</tbody>
</table>

As can be seen in Table 3, the correlation coefficient of cognitive emotion regulation and obsessive rumination of women with breast cancer is $r=-0.22$ which is significant in 0.005. In other words, there is a significant negative relationship between the cognitive emotion regulations and obsessive rumination of women with breast cancer. As a result, the second hypothesis is verified.

H3: there is a relationship between the resilience and cognitive emotion regulation which can predict obsessive rumination of women with breast cancer.

Table 4: Kolmogorov-Smirnov test for normality assumptions scores

<table>
<thead>
<tr>
<th>Normality of scores</th>
<th>Kolmogorov-Smirnov</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistics</td>
</tr>
<tr>
<td>Resilience</td>
<td>0.13</td>
</tr>
<tr>
<td>Cognitive emotion regulation</td>
<td>0.16</td>
</tr>
<tr>
<td>Obsessive rumination</td>
<td>0.11</td>
</tr>
</tbody>
</table>

As seen in Table 4, assuming zero for the normal distribution of scores on the variables of obsessive rumination, resilience and cognitive emotion regulation is confirmed. The assumption of the normal distribution of variables scores is confirmed.
Table 5: Forecast obsessive rumination by the resilience and cognitive emotion regulation

<table>
<thead>
<tr>
<th>Method</th>
<th>Predictive variables</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>p</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &quot;Enter&quot;</td>
<td>Cognitive emotion regulation</td>
<td>0.28</td>
<td>0.08</td>
<td>6.72</td>
<td>0.002</td>
<td>0.19</td>
<td>-2.39</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.16</td>
<td>-2.01</td>
<td>0.04</td>
</tr>
<tr>
<td>B &quot;Stage&quot;</td>
<td>Cognitive emotion regulation</td>
<td>0.24</td>
<td>0.05</td>
<td>9.20</td>
<td>0.003</td>
<td>0.24</td>
<td>-3.03</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Cognitive emotion regulation</td>
<td>0.28</td>
<td>0.08</td>
<td>6.72</td>
<td>0.002</td>
<td>0.19</td>
<td>-2.39</td>
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<tr>
<td></td>
<td>Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.16</td>
<td>-2.01</td>
<td>0.04</td>
</tr>
</tbody>
</table>

As described in the "A" in Table 5, based on the results of multiple regression analysis by inclusion method, there is significant relation among predictive variables (resilience and cognitive emotion regulation) and obsessive rumination multiple correlation coefficient (MR =0.28) with F=6.72 at the level P<0.002. The results showed that 8% of obsessive rumination variance of women with breast cancer is explainable by predictor variables. Also, in the "B" result of regression analysis with stepwise method showed that among the predictive variables there is significant relationship between cognitive emotion regulation with beta (b=-0.19) and resilience with beta (b=0.16). Obsessive rumination of women with breast cancer predicted as negative and cognitive emotion regulation has a larger beta; the best negative predictor is obsessive rumination of women with breast cancer. Multiple correlation coefficient is (MR=0.28) and coefficient of determination is (RS=0.08). The coefficient of determination shows that 8% of the obsessive rumination variance of women with breast cancer can be explained by variables of cognitive emotion regulation and resilience.

Discussion and conclusion

The aim of this study was to investigate the relationship between resilience and cognitive emotion regulation with obsessive rumination of women with breast cancer. According to Table 2, the correlation coefficient of resilience and obsessive rumination of women with breast cancer is r=-0.21 which was significant at 0.007. In other words, there is a significant negative relationship between the resilience with obsessive rumination of women with breast cancer.

As a result, the first hypothesis is confirmed. The result of this hypothesis with research of Khalili (2014) showed that the resilience has predictive power of low obsessive rumination among cancer patients. There is a significant positive relationship between resilience and obsessive rumination of cancer patients. Behzadpur and Motahari (2013) showed that resilience negatively associated with obsessive rumination and resilience negatively is able to predict obsessive rumination of breast cancer patients. Karimi et al (2013) concluded that resilience with obsessive rumination response in cancer patients has an inverse relationship and explaining resilience reduces the obsessive rumination in cancer patients. Fild and Narson (2015) showed a negative relationship between resilience and obsessive rumination response of women with breast cancer. Adzuki (2014) concluded that there is an indirect relationship between resilience and obsessive rumination response of women with breast cancer. Chiu (2014) showed an inverse relationship between resilience and obsessive rumination of cancer patients. Kazr and Brad (2013) showed that women with cancer who have low resilience and more obsessive rumination. Bin (2013) showed that there is an inverse relationship between resilience and obsessive rumination and resilience could explain the reduction of obsessive rumination and the research findings of Katz (2008) indicated that there is a significant negative relationship between resilience with obsessive rumination and prediction of resilience in patients is consistent.

In explaining the results, it can be said that women with breast cancer show low functional flexibility due to their disease, chronic, physical pain, hospitalization condition, mental and physical
capacity of women affected, and away from the family environment (Malachy, 2013). According to Fredrickson and Togod (2004) people with low resiliency or flexibility to deal with negative events and positive return to the previous situation have a negative impact, depression, negative thinking bias, and lack of motivation and that people's thoughts and decreased resilience lead to depression and anxiety.

It is said that action would increase flexibility and self-healing, and an increased triumphant attitude to adverse events in patients with the disease and flexibility to cope with the predicted obsessive rumination experience negative emotions, such as anxiety and depression, and because of the continuing concern will stubbornly stand.

Thus, the low obsessive rumination in women with cancer that can fight disease with difficult challenges and with great concern the increasing obsessive rumination of women and can have a negative relationship because they reduce the resilience and increase rumination of women.

As the pattern of cognitive-attention syndrome expressed people caught in a trap of emotional and the metacognitive distress lead to particular pattern of response to inner experience prompted the continuation of negative emotion and reinforced the negative beliefs. This pattern suggests that there is a negative and significant relationship between anxiety, obsessive rumination and maladaptive coping behaviors flexibility in dealing with resilience. As a result, there is a significant negative relationship between the resilience and obsessive rumination of women with breast cancer. According to the results presented in Table 3, a correlation coefficient of emotion regulation and obsessive rumination of women with breast cancer is \( r = -0.22 \), which is significant at 0.005. In other words, there is a significant negative relationship between the cognitive emotion regulation and obsessive rumination of women with breast cancer.

As a result, the second hypothesis is confirmed. The result of this hypothesis with the results of Salari and Pouretemad (2013) showed that there is a positive relationship between the strategy of self-blame, rumination, casting blame and catastrophe exponentially and rumination. Blame strategy, rumination, catastrophe exponentially can predict a patient's rumination and there is a significant negative correlation between cognitive emotion regulation strategies and acceptance, positive refocusing, refocusing planning, positive reappraisal, less than number of rumination with cancer. Sajadmanesh (2011) showed that there is a significant negative relationship between cognitive emotion regulation and obsessive rumination of cancer patients. Poor Mohammad Reza Tajrishi and Mirzamani Bafeghi (2009) showed that there is a significant positive relationship between the emotional disorder and obsessive rumination and rumination responses, and emotional disorder can increase obsessive rumination and ruminative responses in female cancer patients. Yankl (2015) reported that there is a significant negative correlation between obsessive rumination and cognitive emotion regulation, and cognitive emotion regulation can predict lower obsessive rumination in women with breast cancer. Parker and Advil (2014) that showed a positive correlation between cognitive emotional regulation and obsessive rumination of cancer patients and emotion regulation are able to predict obsessive rumination of cancer patients. Michel (2013) showed that there is a significant relationship between the disorder of emotion regulation and obsessive rumination of patients and lower emotion regulation explain obsessive rumination model of patients. Karen (2012) showed that there is a negative correlation between the cognitive emotion regulation and obsessive rumination, and cognitive emotion regulation in patients with a specific disease is predictors of low obsessive rumination.

In explaining the second hypothesis, it is noted that women with breast cancer because of the illness and its difficult treatment faced with physical, emotional, mental and emotional mental disorder.
As Vaizinger (2000, cited in Stace and Brown, 2004) expressed that cognitive emotion regulation causes of positive and negative emotions are moderated and will understand the situation, and learn how to manage their emotions and the organization of mental capacity, promotes people's mental thinking. It should be expressed that cognitive emotion regulation specifies the ability to monitor feelings and the ability to cope successfully with the demands, requirements, and environmental pressures and also identifies personal skills in dealing with problems and overcomes them and recognizes individual merit in situations. A person with a positive focus and disciplined planning and evaluation, mental processes, motivation and self-acceptance allows proper emotions to pour out and does not experience mental disorders and health and emotional integrity and maintains his cognitive and psychological.

Self-blame, blame others and rumination of women with breast cancer are emotional disorders caused by problem solving and increasing non-negative thoughts, unwanted or disturbing thoughts and negative emotions that could threaten patients. Mayer and Salovey (2003) stated that according to information processing, emotion regulation leads to smart growth and the ability to switch off pleasant emotions, the ability to engage or avoid a thrill for good, wise ability to control emotions and negative emotions with adjustment increase positive emotions and decrease rumination interact. As Goleman (2003) stated emotional regulation causes people to gain greater awareness and better self-control and to feel despairing with less unpleasant thoughts and feelings.

Cognitive emotion regulation in women with breast cancer can provide emotional and psychological integrity and this type of regulation has negative relationship with reducing anxiety, obsessive rumination and uncontrollable thoughts. As a result, it is said that emotion regulation rumination has negative relationship with obsessive rumination of women with breast cancer and reduced emotion regulation of women with breast cancer increases women's rumination. Also, according to the results presented in Table 5, there is a multiple correlation coefficient between predictor variables (resilience and cognitive emotion regulation) and obsessive rumination and

It also is determined that cognitive emotion regulation and resilience can predict negative obsessive rumination of women with breast cancer and cognitive emotion regulation is the best predictor of negative rumination of women with breast cancer. Consequently, the third hypothesis is verified. The study of Khalili (2014) showed that resilience of cancer patients has low predictive power of rumination. Behzadpour and Motahari (2013) showed that resilience negatively is able to predict obsessive rumination of breast cancer patients. Karimi et al (2013) concluded that reduced resilience explains the reduction of obsessive rumination in cancer patients.

Fild and Narson (2015) showed that there is a negative relationship between resilience and obsessive rumination response of women with breast cancer. Kazr and Brad (2013) showed that women with cancer who have low resilience have more obsessive rumination. Bin (2013) showed an inverse relationship between resilience and obsessive rumination and resilience could explain the reduction of obsessive rumination. The study of Katz (2008) suggest that there is a significant negative relationship between resilience and obsessive rumination.

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In explaining the results of the final hypothesis, it is said that women with breast cancer have a negative image of their bodies due to the illness that can increase women's rumination about themself.

In fact, resilience of women with breast cancer forecasts rumination of woman negatively. It was also determined that the cognitive emotion regulation is negative predictor of obsessive rumination of women with breast cancer and is the best predictor of rumination. About this result it can be explained that, as the April (1999) stated in his theory, people with high cognitive emotion regulation have mental health. It should be said that the cognitive view expressed that the positive emotions can make people to new ties between their emotions and emotional information to organize, integrate and find new solutions to solve the problems.

Order of emotions and willingness to engage in various activities to improve people is resilient in encountering to obstacles and problems and turns less to obsessive rumination. Therefore, positive cognitive emotion regulation is indirectly associated with obsessive rumination. Therefore, patients who have emotional discipline in stressful situations apply strategies for dealing with maladaptive rumination disease and cognitive emotion regulation strategies lead to control, problem-solving and planning. As a result, it is said, with cognitive emotion regulation with discipline, intimacy and emotional connection can respond to continued concerns about disease and patients and negative thoughts about breast cancer mortality in women, and can reduce the consequences of rumination in women suffering from regulate negative emotions. Therefore, women with breast cancer who have low cognitive emotion regulation provide more rumination. As a result, cognitive emotion regulation aims to make a thrill through a sense of excitement which can reduce rumination.

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