

# Predicting the Self-Efficacy and Life Quality of Women Suffering from Breast Cancer Rely on Cognitive Emotion Regulation Strategies

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## Abstract

The objective of the present research is Predicting the Self-Efficacy and Life Quality of Women Suffering from Breast Cancer based on Cognitive Emotion Regulation Strategies. The statistical population included all women who were suffering breast cancer and were undergoing treatment in Breast Cancer Research Center of Medical Sciences of University of Tehran. 78 of them were selected by convenience sampling and were assessed by using the questionnaires of cognitive emotion regulation strategies, self-efficacy and life quality. Then, the collected data were analyzed using multivariate regression. According to the attained findings, there is a significant relationship between cognitive emotion regulation strategies and self-efficacy and life quality of women suffering from breast cancer. In other words, cognitive emotion regulation strategies specify around 27.4% of changes of self-efficacy and about 23.9% of changes of life quality of the subjects.

**Keywords:** Self-Efficacy, Life Quality, Breast Cancer, Cognitive Emotion Regulation Strategies

## Introduction

Today, cancer is considered as an incurable disease and after its diagnosis, anxiety, depression and mental disorders follow (Bamshad & Safikhani, 2006; cited in Barghi Irani et al., 2013). Among different types of cancer, breast cancer is most common in women. Breast cancer is the abnormal growth of abnormal cells in which cells grow and divide without control and create a mass known as a tumor. The masses are often painless and have firm texture and appear in the upper and outer breast parts (Pirkhaefi & Salehi, 2013). Living with any chronic disease and the proceedings that are taken to treat it can be a source of serious social or psychological damage to the patient and his family (White, 2001; cited in Bahmani, 2013). Some researchers have also stated that women compared to men have reported more stressful experiences. Moreover, it has been found out that women compared to men assess the threatening events with more stress and are more subject to the stress related to the functionality role (Shekari et al., 2008). Approximately 8 to 9 percent of women are afflicted with breast cancer in their lifetime (Gooya & Mousavi, 2008). In the study by Ranjbar, Koochaksarai and Mostafavi (2006, cited in Pirkhaefi and Salehi, 2013) the prevalence of anxiety disorders and depression in women with breast cancer has been reported 25.9% and 39.5%, respectively. Studies by Bahmani (2013) also indicate that many women with breast cancer in Iran, have moderate to severe emotional problems side effects such as grief, depression, anxiety, irritability, anger, fear and withdrawal behaviors. Therefore, cognitive emotion regulation in women with cancer can be associated with their emotional problems and mental health. Cognitive emotion regulation is a set of strategies which are used to reduce, increase or maintain emotional experiences (Gross, 2007). Cognitive

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emotion regulation is the inherent dimension of tendencies related to emotional responses. According to Garnefski et al. (2001), cognitive emotion regulation strategies are actions that indicate an individual's ways of coping with the stressful situations and unpleasant events. Mennin and Heimberg (2002) in a study concluded that people with Generalized Anxiety Disorder (GAD) have difficulty in organizing emotional experiences and use the positive cognitive emotion regulation skills less. These people also considered their emotional experiences annoying and use concerns and maladaptive interpersonal behavior such as control defensive strategies, avoidance and suppression. Cognitive emotion regulation refers to effectiveness methods in experience, emotional expression and also the time of excitement occurrence (Rottenberg & Gross, 2003). Theoretical models consider successful emotion regulation relevant to health outcomes and performance improvement and relations (Amstadter, 2008). In contrast, difficulties in emotion regulation is associated with different models of psychopathology such as GAD (Menon et al., 2007), social anxiety disorder (Kashdan and Breen, 2008) and depression (Nolen et al., 2008). Besides, in patients suffering from cancer, psychological and physical side effects can have an important role in low quality of life and one of the objectives of looking after these patients is to enhance their life quality. Life quality is a set of individuals' emotional and cognitive reactions to their physical, mental and social state which is always a final outcome in clinical trials, interventions and health care. Quality of life contains various areas including health and employment, economic, social, psychological and family areas. Life quality has been regarded as an important factor in reducing the signs of chronic psychological and physical diseases and there is a lot of evidence that indicates life quality is a significant prognosis in therapeutic situations. Over the past few decades, life quality has been recognized as an important component of health, so that the results of health services should not only increase life expectancy, but also improve the life quality (Agha Hosseini et al., 2012). Human achievement in many fields requires dedication, skill and perseverance that this can be achieved through self-efficacy (Maybach and Murphy, 1995; cited in Nejad Naderi, 2008). Self-efficacy is one of the widely used concepts in Human Sciences researches that was first introduced by Bandura. He defined self-efficacy as: "an individual's belief about his ability to achieve a specific purpose" (Bandura, 1998; cited in Jahanloo et al., 2007). People who have higher self-efficacy set higher goals and pursue a more desirable behavior and achieve more success in various fields in life. Personal judgments about the abilities based on the criteria of skill, a sense of personal sufficiency in a special framework, focusing on the assessment of abilities to do certain tasks are according to objectives and self-efficacy standards. That how well we estimate the standards of our behavior determines our personal effectiveness. In Bandura's system, by personal efficiency, it means the feelings of efficiency, sufficiency and ability to cope with life. Meeting and maintaining performance standards increase personal efficiency, and reduce its failure to meet and maintain the criteria. Self-efficacy means how a person organizes and performs required methods to achieve the expected positions. Self-efficacy beliefs determine to what extent individuals spend energy for their activities and to what extent resist the obstacles (Zeinalipoor et al., 2012; cited in Haji Abadi, 2014). The following have been proved: the effect of positive attributes of personality and sense of self-efficacy on job success (Hashemi nezhad & Manzari, 2012), dealing with mental pressure (Abniki, 2006). Successful learning and educational performance of youth (Izadi & Admalayi, 2007), students' mental health (Haghshenas et al., 2006), preventing occupational burnout (Farahani et al., 2011), sense of happiness (Mani, 2004; Goli et al., 2012), motivation for progress (Bahrami & Abbasianfard, 2010), creativity (Gharebaghi & Amirteimoori, 2011; Bigdeli, 2005), psychological well-being (Bahadori, Khosroshahi & Hashemi, 2012), perfectionism (Taromsari & Haghighatgoo, 2011), accountability (Fallah Nejad, 2009), sexual and job satisfaction (Rahimzadeh, 2011). According to the above-mentioned, self-efficacy and life quality are certainly two important variables that are related to cancer and if they are improved, people suffering from cancer can have better conditions in dealing with the disease, and it seems that cognitive emotion regulation strategies are among the variables that can predict self-efficacy and life quality of women suffering from cancer. Cancer Society's latest report also shows that 25 percent of all cancers in Iranian women are breast cancer (Taleghani et al., 2006; cited in Pirkhaefi & Salehi, 2012). Thus, it seems essential to address the psychological variables associated with cancer. Consequently, the present study aims at finding an answer for the following question: do cognitive emotion regulation strategies have any role in predicting self-efficacy and life quality of women suffering from cancer?

## Methodology

The method used in this study was quantitative, descriptive (non-experimental) and correlational. The data were also collected conducting questionnaires related to predictive and criterion variables. The statistical population of the study consisted of all women with breast cancer who were undergoing treatment in Breast Cancer Research Center of Medical Sciences of University of Tehran. 78 of them were selected using convenience sampling. Due to the absence

of some participants, 71 subjects were studied. To analyze the collected data, SPSS was used in two parts of descriptive statistics (mean and standard deviation) and inferential statistics (multivariate regression analysis).

### Instrumentation

Cognitive Emotion Regulation Questionnaire (CERQ), Garnefski et al., (2001): this questionnaire consists of 36 items and each item is evaluated using a five-point Likert scale from 1. Never to 5. Always. The questionnaire is used to identify an individual's cognitive emotion regulation strategies, after experiencing stressful events in life. It also has 9 sub-scales as follows: Refocus on planning, positive re-evaluation, positive refocusing, blaming others, self-blaming, rumination, development of view, catastrophizing and acceptance. In a study conducted by Samani and Sadeghi (2010), conducted a step 2 factor analysis on the primary factors of this questionnaire, and obtained two general factors called adaptive emotion regulation strategies (positive refocusing / planning and positive re-evaluation /

development of view), and maladaptive emotion regulation strategies (blaming others / self-blaming / rumination / catastrophizing / acceptance). Cronbach's alpha coefficients for these factors and test-retest reliability coefficients were reported within the range of 0.62 to 0.91 and 0.75 to 0.88, respectively. In another study by Davoodi et al. (2014) the scores of two general factors were used and Cronbach's alpha coefficients of them were obtained 0.84 and 0.87, respectively.

**General Self-Efficacy- Schwarzer (GSES):** to evaluate self-efficacy, Schwarzer's general self-efficacy scale was used. This questionnaire was designed by Schwarzer et al. in 1982 and consists of 23 items 17 of which are related to general self-efficacy and the other 6 items are related to self-efficacy experiences in social situations. In the present study, the seventeen-item scale was used. Self-efficacy questionnaire measures individual's beliefs related to his ability to overcome different situations. This questionnaire has been prepared based on the five-point Likert scale in a way that "strongly disagree" gets score 1 and "strongly agree" gets the score 5. High scores indicate high self-efficacy in individual. In scoring this questionnaire, the items 3, 8, 9, 13 and 15 are scored according to the above-mentioned and the rest of items are scored inversely. to assess the construct validity of General Self-Efficacy Scale correlated the scores obtained from this scale with the measures of several personality characteristics (Rotter's Internal-External Locus of Control Scale, personal control sub-scale, Marlowe-Crowne Social Desirability Scale and Rosenberg's interpersonal competence scale) and the predicted correlation between self-efficacy scale and the measures of average personality characteristics, (0.61 and significant at 0.05 level) and confirmed the intended structure. In addition, the reliability of the scale was obtained 0.79 using Guttman's split-half model and 0.79 using Cronbach's alpha. Also, in a study by Vaqaryi (2000);

cited in Hajiabadi, 2014) the reliability of self-efficacy was obtained 0.85 using Cronbach's alpha.

**Life Quality Questionnaire:** This questionnaire is the third edition of specific life quality assessment questionnaire in cancer patients belonging to the European Organization for Research and Treatment of Cancer which was designed by Aronson (1987; cited in Safaee et al., 2007). The questionnaire has 30 items that measures the life quality of cancer patients in five areas of performance including: physical performance, role-playing, emotional performance, cognitive performance and social performance, and 9 subscale symptoms including: fatigue, pain, nausea and vomiting, shortness of breath, diarrhea, constipation, insomnia, decreased appetite, economic problems caused by the disease, treatments received, and an overall gamut of life quality. Validation studies have approved the questionnaire as a reliable and valid measure for life quality of cancer patients in multi-cultural research situations (Kahrzahi et al., 2011). Safaee et al (2007) also showed that the third edition of the Persian version of this questionnaire is a reliable and valid instrument for measuring life quality of cancer patients. Cronbach's alpha of Fatigue scale, pain, nausea and vomiting and other scales was estimated 0.65, 0.69, 0.66 and higher than 0.70, respectively, that indicates the reliability of the questionnaire (Kahrzahi et al., 2011).

## Finding

In this part, before examining the hypotheses of the study, the descriptive indices of the variables of the study are shown in table1.

Table 1. Mean and standard deviation of cognitive emotion regulation strategies, self-efficacy and life quality

Variables	Mean	Standard deviation
Refocus On Planning	3,22	0.41
Positive Re-Evaluation	3,25	0.44
Positive Refocusing	3,58	0.61
Blaming Others	2,45	0.42
Self-Blaming	3,24	0.43
Rumination	3,31	0.48
Development Of View	3,22	0.41
Catastrophizing	3,35	0.47
Acceptance	3,25	0.44
Self-Efficacy	3,29	0.47
Life Quality	3,20	0.46

The above table shows that the mean of the variables of cognitive emotion regulation strategies is between 3.22 and 3.58. It indicates that generally the participants of the study did not show any undesirable conditions in this part and the obtained scores for the means of the variables of cognitive emotion regulation strategies were higher than average.

The results of the above table indicate that the mean of self-efficacy is 3.29 and it means that the self-efficacy of the subjects of this study is higher than the average, furthermore, concerning life quality, the results revealed that the statistical population of this study had the mean 3.2. It is worth noting that for life quality variable, the total score has only been taken into account.

Hypothesis one: cognitive emotion regulation strategies have a role in predicting self-efficacy of women suffering from cancer.

Table 2. Summary of regression test to predict the self-efficacy on the basis of cognitive emotion regulation strategies

Model	Predictive Variables	R	R <sup>2</sup>	Adjusted Correlation	Sig
1	Emotion Regulation Strategies	0.541	0.292	0.209	0.001

According to table 2, the correlation between “cognitive emotion regulation strategies” and “self-efficacy” was estimated 0.541. In other words, cognitive emotion regulation strategies including: refocus on planning, positive re-evaluation, positive refocusing, blaming others, self-blaming, rumination, development of view, catastrophizing and acceptance specify about 29.2% of “self-efficacy” changes of women suffering from breast cancer ( $R^2 = 0.292$ ).

Hypothesis two: cognitive emotion regulation strategies have a role in predicting psychological well-being of mothers who have children suffering from cancer.

Table 3. Summary of regression test to predict life quality on the basis of cognitive emotion regulation strategies

Model	Predictive Variables	R	R <sup>2</sup>	Adjusted Correlation	Sig
1	Emotion Regulation Strategies	0.526	0.276	0.212	0.001

Based on the results of table 3, the correlation between “cognitive emotion regulation strategies” and “life quality” was estimated 0.526. In other words, cognitive emotion regulation strategies including: refocus on planning, positive re-evaluation, positive refocusing, blaming others, self-blaming, rumination, development of view, catastrophizing and acceptance specify about 27.6% of “life quality” changes of women suffering from breast cancer ( $R^2 = 0.276$ ).

## Discussion and Conclusion

The present study aimed at investigating the role of cognitive emotion regulation strategies in predicting self-efficacy and life quality of women suffering from breast cancer. According to the obtained results, there is a significant relationship between cognitive emotion regulation strategies and self-efficacy and life quality of women suffering from breast cancer. In other words, cognitive emotion regulation strategies significantly predict self-efficacy and life quality of women suffering from cancer. The results of this study are in line with the results of studies conducted by Barghi Irani (2013), Bahmani (2013), Amstadter (2008), Martin and Dahlin (2005), Nolan et al. (2008), Kashdan and Breen (2008), Ghasempour et al. (2012), and Mennin et al. (2007).

Studies indicate that the pain caused by the disease, fear of death, side effects of treatment, reduction of performances, disturbance in mental image and sexual problems are among the factors that cause tribulations in mental health of patients suffering from breast cancer (Torkaman, 2012). Moreover, diagnosis and treatment of breast cancer cause disturbances in sleep and activity patterns, physical symptoms and disturbances in cognitive performance, social participation and doing the duties, and finally, threaten the individual's life quality. Hasanpour (2006, cited in Mohaddesi et al., 2012) in his study conducted on 200 patients suffering from different types of cancer indicated that 34% of the patients of the study did not have desirable life quality. Martin and Dahlin (2005) in a study that examines the relationship between emotional factors (stress, depression and anxiety) and cognitive emotion regulation concluded that there is a significant relationship between stress, anxiety and depression and negative cognitive emotion regulation strategies (rumination, self-blaming and blaming others) and positive cognitive emotion regulation strategies (acceptance, positive re-evaluation and positive attention to self). The relationships are positive and negative, respectively. Besides, negative cognitive emotion regulation strategies can positively predict stress, depression and anxiety among the subjects. On the other hand, positive cognitive emotion regulation strategies can negatively predict stress, depression and anxiety among the participants. Dennis (2007) also showed that there was a negative significant relationship between cognitive re-evaluation as a constructive cognitive emotion regulation strategy and anxiety, but there was no significant relationship between suppression as a negative cognitive emotion regulation strategy and anxiety. The results the study done by Ghasempour et al. (2012) showed that there was a positive significant relationship between death anxiety and maladaptive cognitive emotion regulation strategies such as rumination, self-blaming and catastrophizing. According to the explanations given, it is concluded that there is a close relationship between cognitive emotion regulation strategies and

anxiety, and as the results of previous researches including Haji Abadi (2014) and Najafi and Chang Foolad (2007; cited in Nekoo 2013) show, there is also a significant relationship between anxiety and individuals' self-efficacy. As a result, the individuals who have high anxiety, have lower self-efficacy, hence high anxiety and low self-efficacy undoubtedly negatively affect life quality. Bandura believed that self-efficacy beliefs formed in various fields during human development in relation to the environment and others. Family as children's first educational center has a significant role in the development of their self-efficacy beliefs. Psychological factors are also among factors influencing the growth of self-efficacy beliefs. Bandura believed that the higher the level of our physiological and

emotional arousal, the lower our efficiency and efficacy. Accordingly, the higher the level of people's mental and physical well-being, they feel more self-efficient (Asghari et al., 2014). According studies by Zimmerman (2002; cited in Malekzadeh et al., 2014) Efficacy is one of the effective factors in increasing the individual's confidence in his capabilities through increasing self-awareness and self-judgment to personal growth, on the other hand, self-efficacy has a significant effect on close relations and with higher quality. Furthermore, self-efficacy is associated with how to choose real and appropriate criteria in life and try to achieve goals (Mo'tamedi, 2004).

Increasing self-efficacy is associated with the improvement of mental health. These individuals regard the problems of life in a challenging way and thus are not much hurt, their stress reduces and have better mental health (Najafi & Chang Foolad, 2007, cited in Nekoo, 2013). Bandura (1997, 1992, 1986, cited in Haji Abadi, 2014) explains that self-efficacy is the effect of one's behavior due to four steps: cognitive, spiritual, motivational and selection. Self-efficacy affects the amount of stress and mental pressure and depression resulting from threatening situations. People with high self-efficacy reduce their mental pressure in stressful situations, however, the people with low self-efficacy experience high anxiety when controlling threats and expand their inefficiency and consider many environmental aspects threatening leading to stress and mental pressure. People who believe they can control potential threats and pressures do not let stressful factors in their minds and consequently do not get upset by them (Hashemian, 2010, cited in Haji Abadi, 2014). According to Bandura's social learning theory, self-efficacy beliefs affect individuals' choices, their field of study and their activities and people tend to do activities they are sure of doing them and avoid activities they think they do not the ability to do. Generally, when individuals believe they have the required capabilities and abilities to do an activity, they spend a lot of time to do the activity and finally will obtain better results. Individual's perception of self affects their thought, motivation, performance and emotions (Haji Abadi, 2014). Hence, using different ways has been/is suggested to enhance self-efficacy by learning appropriate cognitive emotion regulation strategies, and using adaptive strategies had a positive effect on self-efficacy and life quality of women suffering from cancer.

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