Cognitive Emotion Regulation Strategies in Women with Major Depressive Disorder

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Abstract

Objective: Disturbance in emotion and cognition is the core feature of major depressive disorder (MDD), which can be expressed as a negative bias in processing information after experiencing stressful events. This examines the use of cognitive emotional regulation strategies by a cohort of adult female patients with a major depressive disorder. Method: A cross-sectional was designed for this study. 40 women with MDD were selected as patient samples and 40 non-clinical females as the control group. Both samples were selected by a purposive method. Pearson correlation between the subscale test and analysis of data was performed by independent-samples t-test. Result: There were significant differences in cognitive emotion regulation strategies among individuals with MDD compared with the normal samples in these subscales: self-blame (p=0.007), rumination (p=0.001), positive refocusing (p=0.008), refocus on planning (p<0.0001), positive reappraisal (p=0.001), putting into perspective (p=0.035), catastrophizing (p<0.0001) and other-blame (p=0.023). However, in the subscale of acceptance (p=0.549), no significant difference could be observed between patients and the control group. Conclusions: These findings mentioned that poorer cognitive emotional strategies were used by MDD patients in comparison with the health control. Focus on the proper use of cognitive emotion regulation strategies can lead to a better control in stressful situations by patients and can help them to manage their emotional processing.

Keywords: Major Depressive Disorder, Cognitive Strategies, Emotion Regulation

Introduction

Impaired emotional experiences are included in the diagnostic criteria for many mental health disorders in the Diagnostic and Statistical Manual of Mental Disorders like
Major Depressive Disorder (MDD) that refers to low levels of positive affect (PA), heightened levels of negative affect (NA) and exorbitance guilt. Depression reduces drive, attention and interest in pleasurable activities. Also emotional and cognitive dysfunctions are diagnostic features of MDD. Emotion regulation through cognition or thought is inextricably linked with human life and the degree of emotion regulation can be changed according to significant changes about emotional experiences. Emotional regulation operations might be done consciously or unconsciously and it can act automatically or in a controlled way.

The concept of Cognitive emotion regulation refers to the conscious and cognitive methods that manage emotionally-arousing information for control emotions and coping with problems. Also Cognitive emotion regulation is widely considered as an important issue to mental health. Studies show that emotion dysregulation is associated with a number of psychological problems, such as major depressive ones. Moreover, major depression is a common mental disorder among women so that prevalence of this disorder in women is twice more in men. This greater vulnerability to depression might be the result of differences in socioeconomic status, level of education or specific biological features of women, for example, by hormonal or genetic predisposition.

During emotion regulation, individuals may increase, maintain, or reduce positive and negative emotions. Depression is associated with an overall reduction in both positive and negative emotional responses. Studies show the main problem underlying MDD is the dysregulation of negative emotions, particularly the inability to disengage from negative emotional states.

Overall, the ability to recognize appropriate emotional responses to deal with daily events expands neat insights and positive attitudes regarding the occurrence and emotions, and they all play the main roles.

The present study will focus on the extent to which the nine separate cognitive coping strategies are used in response to the experience of life stress in female patients who suffered from MDD (a), using a specific instrument (CERQ) to measure these cognitive emotional strategies (b) understanding the processes underlying the disorder to find an appropriate approach to help these patients for coping with negative life events in future (c).

**Methods**

A cross-sectional study was conducted for this purpose. Patients were selected from two psychiatric clinics in Tehran from July to November 2012 by purposive method. Explanation about the purpose of this research project and plan was given to each participant individually. Through the semi-structured interview, along with SCID-I and clinical psychiatrist’s assessment, of all 50 patients who had referred to these clinics for the first time and were received the diagnosis of MDD on the basis of the inclusion and exclusion criteria, 40 women were selected as MDD samples of this study while they had not been given any medication or psychotherapy. The demographic form designed to elicit information on three aspects of the participants’ background: age, marital status and level of education. All patients filled out the demographic form; Duo to similar sex, other variables such as age, marital status and educational level were measured.

The sub-sample of MDD patients consisted of 50 adult females in the age range of 18 to
45 years old (mean age 30.80). Considering the other demographic variables, 64.9% were unmarried, while 32.4% were married, 2.7% was widowed, and no one was divorced. Regarding their educational level, 2.7% indicated to have less than 12 years of education, 24.3% had diploma and 73% had completed university or post graduate degrees.

Patients filled out the cognitive emotion regulation questionnaires (CERQ) at the presence of the researchers. As a result of this questionnaire, 60 women were selected by purposive sampling method initially for the control group. After the clinical interview based on Inclusion and Exclusion criteria, they filled out Symptom Checklist 90 (SCL-90); the multipurpose instrument helps assessment of a wide range of psychological problems and symptoms of psychopathology in different settings. Eventually 40 females were selected as the health control for the study. All samples filled out the demographic form and variables measuring in this group were as the following:

A matched non-clinical group of 60 adults female was obtained in age range of 18 to 47 (mean age 28.54). In this group, 29.7% were married, 70.3% unmarried and no one was divorced or widowed. In educational status, no one had less than 12 years of education, 21.6% had diploma and 78.4% had completed university or post graduate degrees.

Inclusion criteria:

Being diagnosed as MDD was based on the SCID-I which referred to specialized centers before receiving any treatments to answer the questionnaires so that they need to have the literacy ability. Criteria for exclusion from the study: Age less than 18 and more than 60 years old, history of head trauma, neurological disorders (meningitis, encephalitis, etc.), seizure and epilepsy, substance abuse, presence of active psychotic and dissociative symptoms. For the control group, the features included taking axis I and II diagnosis of any disorders, requiring psychiatric treatment and a history of severe psychiatric disorders in first-degree relatives.

**Instruments**

**The Cognitive Emotion Regulation Questionnaire (CERQ)**

In this study, cognitive emotion regulation questionnaire (CERQ) was manipulated to assess cognitive emotion regulation strategies in patients with MDD. Garnefski, Kraaij and Spinhoven (2002) developed a 36-item version of the Cognitive Emotion Regulation [15]. The questionnaire contains nine conceptual scales and the sub-dimension includes: self-blame, acceptance, rumination, positive refocusing, refocusing on planning, putting into perspective, catastrophizing and other-blame. Every scale consists of four items that implicate how people think after the negative or stressful experience, ranging from 1 (never) to 5 (always). Scale scores are obtained by summing up four items in which the minimum was 4 and the maximum was 20. Internal consistencies ranged from 0.68 to 0.83 according to Cronbach’s alphas to be more than 0.80, and test-retest correlations ranged between 0.40 and 0.60, these all indicate moderate stability. In the clinical sample, Cronbach’s alpha ranged from 0.72 to 0.85 and in the non-clinical population reliabilities ranged from 0.76 to 0.86. The questionnaire standardization was performed by Hasani (2011) in Iran while Cronbach's alpha coefficient has been reported from 0.76 to 0.92 and test-retest correlation...
The coefficient was 0.51 to 0.77 which shows the appropriate stability of the scale\textsuperscript{16}.

**Statistical analysis**

Statistical analyses were conducted with SPSS 18.0 for Windows. The Kolmogorov-Smirnov test was used to evaluate the normal distribution of variables. Moreover, Levene's test was applied for equality of variances. Correlations between subscales were examined using Pearson correlation coefficient. PSS scores were compared between 2 groups by means of independent-samples t-test analysis. Statistical significance was assumed to be at $p<0.05$.

**Results**

Means and standard deviations were calculated in both samples to study the degree to which the nine cognitive emotion regulation strategies were reported by members of MDD sample in comparison with the normal sample. The results are shown in Table 1.

Table 1. Differences to report cognitive emotion regulation strategies between MDD group and non-clinical group: means, standard deviations and t-test.

| Cognitive emotion regulation strategies | Clinical sample (n=40) | | Non-clinical sample (n=40) | | t-test for equality of mean | |
|----------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                                       | M         | SD | M         | SD | t       | p       |
| Self-blame                             | 12.05     | .37 | 10.84     | .37 | 2.7     | .007    |
| Acceptance                             | 13.08     | .55 | 12.40     | .98 | .60     | .549    |
| Rumination                             | 14.27     | .45 | 12.13     | .43 | 3.42    | .001    |
| Positive refocusing                    | 11.16     | .65 | 13.49     | .55 | -2.7    | .008    |
| Refocus on planning                    | 12.59     | .60 | 15.84     | .44 | -4.33   | .000    |
| Positive reappraisal                   | 12.59     | .63 | 15.46     | .55 | -3.42   | .001    |
| Putting into perspective               | 11.84     | .54 | 13.35     | .45 | -2.15   | .035    |
| Catastrophizing                        | 11.92     | .47 | 7.86      | .48 | 5.98    | .000    |
| Other-blame                            | 10.57     | .45 | 8.86      | .42 | 2.33    | .023    |

* P-value was statistically significant ($p<0.05$).

In order to study which of the nine specific cognitive emotion regulation strategies were at the basis of this overall significance, t-tests were used. Table 1 indicated that significant differences between the MDD population and the non-clinical group were found to report cognitive emotion regulation strategies: self-blame, rumination, positive refocusing, refocusing on planning, positive reappraisal, putting into perspective, catastrophizing and other-blame. The result shows that there was not a significant difference in the reporting of acceptance between these two groups.

Table 2 mentioned Pearson inter-corrrelations between CERQ scales among patients and normal samples. Correlations between subscales ranged between -0.467 (catastrophizing and positive reappraisal) and 0.804 (positive reappraisal and refocus on planning) in normal samples and between -0.339 (self-blame and putting into perspective) and 0.618 (refocus on planning and positive reappraisal) in the MDD samples.
The results, obtained from Table 2 show that in some scales which are moderately correlated in both groups, follow as: 0.588 (positive reappraisal and positive refocusing) in the normal samples and 0.552 in MDD individuals, 0.460 (refocus on planning and positive refocusing) in normal samples and 0.596 in patients, 0.479 (putting into perspective and positive reappraisal) in the normal individuals and 0.549 in MDD samples, and (putting into perspective and refocus on planning) 0.480 in normal group and 0.574 in MDD individuals. These results demonstrated a strong relative correlation between scales.

**Discussion**

In several studies, authors have reported about positive correlation between depression symptoms on one hand, and the use of the cognitive emotion regulation strategies of self-blame, catastrophizing, rumination and other-blame on the other hand. In another research on the separate concepts of rumination, the results showed significantly higher rumination scores were associated with severe depression.

Beside other studies, evidences showed that rumination affects together with negative cognitive content in creating risk for depression.

The present study examined how women with MDD use cognitive emotion regulation strategies while similar results were obtained in recent studies. Self-reported variables show that MDD individuals used the cognitive emotion regulation strategies for self-blame, rumination, catastrophizing and other-blame more than non-patients. Also, they used the positive refocusing; putting into perspective, refocus on planning and positive reappraisal in reverse order. Test-retest correlations suggested that
cognitive emotion regulation strategies were relatively stable strategies.

Min and colleagues (2013) suggested that the cognitive emotion regulation strategies of refocus on planning, positive reappraisal, and less rumination contribute to resilience in patients with depression and anxiety disorders\(^{21}\). Cognitive emotion regulation strategies are the way to anticipate emotional problems on a longer term\(^5\).

People who identify, control and use the mentioned cognitive emotion regulation strategies, can gain social protection, life satisfaction and more mental health whilst the cause of many emotional disorders is related to some deficits in cognitive control. According to the learned helplessness model, depression is the result of an escape or avoidance deficit after stress and aversive experience that can be uncontrollable\(^{22}\). It can be realized that negative thoughts and wrong beliefs about events and use of dysfunctional coping methods are the results of inability to take the control of negative emotions which can lead to depression. According to conscious concepts, cognitive emotion regulation is carefully related to the concept of cognitive coping\(^{23}\). The study outcomes distinguished the prominent role of cognitive regulation in coping with stressful and negative events.

In fact, the individuals with less proper use of cognitive emotional strategies have lower mental health and life satisfaction. In contrast, the individuals who have more sufficient cognitive emotion of coping strategies to deal with problems and stressful situations can experience a higher level of psychological and mental health.

Future studies should focus on relationships between cognitive emotion regulation and mode of expressing the emotions and behavior of individuals by using self-reported data collection or interviews and specialists' judgments to develop people's consciousness about their cognition and emotion in their stressful life events in order to help them find a solution.

**Conclusion**

Deficits in cognitive emotion regulation skills may lead to the consistency of MDD. Focusing on proper use of cognitive emotion regulation strategies can be an appropriate target in theoretical models, intervention strategies and behavioral intervention.

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