Original Research

The Effectiveness Of Psychotherapy with Cognitive-Behavioral Approach On Emotion Cognitive Regulation Strategies Of Patients with Premenstrual Dysphoric Disorder

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Abstract

Introduction: Premenstrual dysphoric disorder is a series of repeated physical, psychological and behavioral symptoms that occur at the end of the menstrual cycle and resolves at the onset of menstruation and disrupts the function of the individual and the way of cognitive emotion regulation influences in development or reducing symptoms of this disorder. The aim of this research was to study, effectiveness of Psychotherapy with cognitive-behavioral approach in emotion cognitive regulation strategies of patients with premenstrual dysphoric disorder.

Method: This design of the study is pre-test /post-test control group. The sample include 28 persons (14 group expermintal and 14 group control) of patient premenstrual dysphoric disorder in Mashhad the selected randomly and they were requested to answer Daily Record of Severity of Problem chart (DRSP) and Garnefeski Cognitive Emotion Regulation Questionnair (CERQ). Over 8 therapy sessions, each lasting 90 minutes cognitive-behaviour therapy while the control group did not receive any intervention.Covariance analysis was applied to analyse the data.

Result: The result of data analysis showed CBT caused the decrease of cognitive emotion regulation maldaptive strategy (self-blam, rumination and catastrophizing) and increase of cognitive emotion regulation adaptive strategy (acceptance and positive reappraisal) of experimental group of comparision to the witness group ($p < 0/05$).

Conclusion: The resalt of this study indicate the effectiveness of Psychotherapy with cognitive-behavioral approach on emotion cognitive regulation strategies of patients with premenstrual dysphoric disorder.

Keywords: Cognitive-Behaviour therapy, Emotion cognitive regulation, Premenstrual dysphoric disorder.

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Introduction

Some psychological factors, such as emotions and personality traits, can incline a person to a psychotic disorder (1). One of the diseases that is affected by psychological factors is Premenstrual dysphoric disorder (2). Premenstrual dysphoric disorder (PMDD) is Periodic recurrence of a combination of physical, psychological and behavioral symptoms that has occurrs at the end of the menstrual cycle and improves in the week after the onset of menstrual periods, disrupting the performance of the individual in the process (2, 3). However, the underlying source of PMDD has not yet been discovered (4, 5, 6, 7), but the

role of hormones, neurotransmitters, vitamins and minerals has been noted in the development of this disorder (8).

According to DSM-5 diagnostic criteria, there must be at least 5 symptoms in 2 consecutive menstrual periods in order to claim the existence of PMDD. These symptoms include: emotional instability, irritability or anger as manifested by increased interpersonal conflicts; depressed mood; anxiety or tension; decreased interest; difficulty in concentration; lethargy, fatigue or lack of energy; changes in appetite; oversleeping or insomnia; feeling drowsy or being out of control, and physical symptoms such as inflammation and breast tenderness, joint or muscle pain, swelling or weight gain. Symptoms should have occurred in most menstrual cycles over the past year and have adverse effects on occupational or social performance of that particular individual. These symptoms should not be due to acute physiological effects or other physical illnesses. These symptoms should also not be an exacerbation of other mental disorders, such as major depression disorder, panic disorder, or personality disorder (9, 10, 11). In the 5th Version of Diagnostic and Statistical Manual of Mental Disorder, this disorder was introduced as a new depression disorder and a distinct class (2, 12).

Events associated with the fertility cycle are capable of stimulating emotional changes (9), so that unstable emotions and lack of control in the regulation of emotions is more evident later in the menstrual cycle (13). In psychological theory, emotional disturbances are highly correlated to psychotic disorders (14), as the relationship between PMDD and lack of emotional control has been established in the literature (15). Emotion develop as reactions to the important events of life and to the biological and cognitive processes that have led these events (16). They influence the way we think, feel and behave (17). Emotional states are determined based on cognitive factors. Hence, cognition leads to the establishment of a sympathetic nervous system, resulting in emotional states (18). Negative emotion management and processing of negative emotions are beneficial in reducing depression, anger, irritability and other symptoms of premenstrual syndrome (13). Also, after experiencing tense events, people set their emotions through their thoughts and cognitive systems (19). Among them, the emotional regulation is an effort to manage excitement, and it refers to what excitement and when it is and how we experience and express the excitements we have (20). Also, among the most significant strategies that plays an essential role in emotional regulation are cognitive strategies for excitement, whereby input information that triggers emotions are under the control of that person, especially when a person with a negative emotional experience has a threatening event (1, 21).

Cognitive regulation of emotions can contribute in regulating arousal and emotional

excitement, and this regulatory approach is directly correlated to the growth and progression of psychiatric disorders (22). Cognitive regulation of emotions is a cognitive coping strategy that involves a repository of individual responses and involves all internal and external processes that are responsible for monitoring, evaluating and modifying emotional reactions, especially extreme and transient ones (23). Adaptive strategies for emotional cognitive regulation include acceptance, Positive reappraisal, re-focus on planning, positive re-focusing, and Putting into perspective. The maladaptive strategies of cognitive order of excitement include Self-blame, blame for others, rumination and Catastrophizing (24, 25). Wu et al (2014) stated that when psychosocial individuals experience premenstrual symptoms, their emotional cognitive regulation strategies can play a role in influencing the symptoms of premenstrual syndrome (26).

Since PMDD, as a mood disorder, can affect aspects of emotional cognition and function, it may create problematic emotional responses. Problematic emotional responses make the indvidual susceptible to environmental pressures and can exacerbate physical, mental, and psychological problems caused by this disorder (15, 27). Also, the physiological changes in PMDD provide the basis for mental imbalances and thus reduce individual compliance (2, 3), in a way that such individuals are exposed to extreme irritability, including apparent and persistent anger, interpersonal conflicts And lack of emotional adjustment (28, 29, 30); on the one hand, they suffered from academic failure, increased occupational conflicts and increased family conflict; attention to treatment and adjustment of their emotions It is of particular importance (9, 15). Therefore, drug therapy should not be considered as the only intervention in the treatment of this disorder, but the treatment of this disorder should include a comprehensive program of education and psychological support, lifestyle modification, exercise, nutrition assessment and nutrition correction and, if necessary, interventions. It is a medicinal product that helps people who are affected to control their health and well-being. (9). Therefore, therapeutic methods for treating cognitive emotion that are effective in treating ineffective cognitive impairments and thus reducing the symptoms of mental disorders more rapidly should be considered in therapeutic programs and CBT is one of the most effective therapies. (23).

Cognitive-behavioral therapy is a method in psychotherapy that affects the manner in which people's thoughts, beliefs and attitudes can alter their ineffective emotions and behaviors, which is achieved with specific skills including knowledge of distorted thought, modification of beliefs, communication with others in various ways, the result of which is that the individual learns to change his/her thoughts, feelings and behaviors (31). Many techniques

of this treatment involve changing the way of thinking and feeling that is a means of changing behavior (32).

Eggert et al. (2017) concluded that deviations in cognitive and emotional processes and the lack of adjustment of excitement in premenstrual syndrome are correlated to biological changes associated with menstrual cycles (13). Also, Eggert et al. (2016) found that cognitive emotional regulation was effective in reducing symptoms of PMS (21). Wu et al. (2016) also found that emotion regulation interventions could help reduce the symptoms of PMS (33). Also, the results of Camara et al. (2016) showed that changes related to menstrual cycle in people with premenstrual dysmorphic disorder are affected by negative feelings and psychological symptoms in such patients (34). Samadani (2015) also showed that cognitive-behavioral therapy can prove fruitful in the reduction of physical and psychological symptoms of premenstrual syndrome and correct the emotional cognitive adjustment strategies while improving the coping skills focused on the excitement of women with premenstrual syndrome (35). Ashour Mahani and Tashak (2015) concluded in their study that employing self-regulation, coping strategies, and emotional regulation were effective in reducing the severity of symptoms in premenstrual syndrome (36). Isa-Zadegan et al. (2015) also showed that actions to improve the cognitive management of emotion in mental illness play an important role in improving mental health (1). Therefore, the aim of this study was to investigate the effectiveness of cognitive-behavioral therapy on cognitive-emotional regulation of patients with premenstrual dysmorphic disorder (PMDD) on an Iranian sample.

Method

In this study, the clinical trial method was used as a semi-experimental, pretest-posttest design including a control group. In terms of methodology, this research is considered as an applied research. In this study, there were two groups of intervention and control. Cognitive-behavioral therapy was performed for the former (intervention) while the latter (control) received no treatment. Subjects were randomly assigned to both groups. At first, a pre-test of emotional cognitive regulation questionnaire was performed and then the intervention group was involved by a therapy group led by the author, while the control group was waiting in line. The statistical population in this study included all women with premenstrual dysfunction disorder in Mashhad who visited Al-Ghadir medical center and were diagnosed as having PMDD according to DSM-V diagnostic criteria and based on clinical interview. Among women diagnosed with premenstrual dysphoric disorder, 31 people were randomly selected using available sampling methods and observing entry criteria (such as willingness and informed consent to participate in the research, having regular

menstrual cycles, lack of other psychological disorders, lack of According to the person's own medical conditions, the lack of use of drugs affecting premenstrual dysphoric disorder and exposure to severe stress three months prior to the training period) and excluding critera (eg, absence of two training sessions, having a medical condition and psychiatric disorders during the course of treatment, taking medications that have an effect on the symptoms of this disorder), 16 of which were assigned to intervention group while 15 subjects were assigned to the control group. Therapeutic sessions were held weekly for 8 sessions, 90 minutes each.

The Cognitive Emotion Regulation Questionnaire (CERQ) is a self-report questionnaire that has 36 questions and questions. The items of this questionnaire are designed based on theoretical and practical constructs. The questionnaire conceptually has 9 distinct subscales, which consists of self-blame, blame, ruminant, and catastrophic thinking, in general, of negative or improper strategies for emotional cognitive regulation, and acceptance strategies, re-focusing on the program Positive, Re-focusing, Retirement Marketing, and Adopting the Perspective on Positive or Adaptive Strategies of Cognitive-Emotional Tuning. This questionnaire can be used from the age of 12 years (both normal people and the clinical population) and their responses are collected in a 5-degree continuum (always, often, usually, sometimes never). This questionnaire does not have a reverse question. The alpha coefficient of this questionnaire was also reported by Granefski et al. (2002) in the range of 0.71 to 0.81 which indicates the reliability and validity of the questionnaire (37). In Iran, the alpha coefficient calculated in Samani and Sadeghi's study was reported in the range of 0.62 to 0.91, and its re-test coefficient ranged from 0.79 to 0.88 (38). Also, by Hasani (2011), during a re-test, a coefficient of 0.3-0.67. And the Cronbach's alpha coefficient from 0.76 to 0.92 have been reported with an addict and desirable validity (39).

The summary of the content of the treatment sessions was that the first session: Understanding the PMDD and providing the logic of treatment, providing a three-system model of the person, teaching understanding the negative view of themselves, the world and the future, and knowing their negative thoughts and beliefs, the guided image Delightful Thinking; Second Session: Training of Logical Errors, Thinking Ratings and Classification of Thinking Processes, Understanding Behavioral Consequences of Beliefs, Musculoskeletal Learning; Third Session: Categorizing Perceptions of Beliefs, Identifying Negative Schemes And cognitive errors; Session Four: Provide a basic list of beliefs and their categorization, familiarity with ABC analysis, and an understanding of objective analysis. Ores; Fifth Session: Valuation of Beliefs and the Decision to Select and Maintain Beliefs by

Benchmarking, Profitability Analysis and Equivalence Analysis; Sixth Session: Training on logic analysis, preparation of a hierarchy of positions related to the basic belief, the preparation of beliefs opposed to negative beliefs; Seventh Session: Learning the technique of perceptual change, optional cortical rejection, self-spontaneity punishment, problem-solving technique; Session 8: Reviewing old and opposing opposing and negative beliefs, teaching imagination, simulating situations True, Browse the program and homework (40).

Covariance analysis was used to analyze the data. To speed up the results, SPSS 21 software was used.

Findings

The number of members of the experimental and control group after leaving the group was equal and 14 were each. The age range of participants was between 23 and 39, with an average age of 25.34 years. Table 1 shows descriptive indicators of education, marital status and employment status.

Prior to analyzing the multivariable covariance, its assumptions were examined by Shapirovic's test, and the results indicated that the distribution of data was normal and the assumptions were made for using multivariate covariance analysis.

In Table 2, descriptive indexes, emotional cognitive regulation strategies are presented in two stages: pre-test and post-test, and in different groups of testing and control. Based on these indicators, there are some differences between the experimental and control groups.

The results of therapeutic effects on each of the emotional cognitive regulation strategies from multivariate analysis results in the multivariate covariance analysis result are presented in Table 5. The table below, which includes the results of the effects of the independent variable on each of the dependent variables separately, shows that by removing the pre-test effects, the differences due to group membership for Acceptance (P = 0.001, F = 35.32), Reappraisal (P = 0.001, F = 23.97), self-blame (P = 0.001, F = 19.60), rumination (P = 0.001, F = 53.77) and Catastrophizing (P = 0.001, F = 28.84) is significant. The cognitive-behavioral therapeutic effects of the mentioned variables are respectively 0.63, 0.53, 0.47, 0.71, and 57.7 percent. For the adjusted means, table 5 showed that in the intervention group had lower means compared to the control group in variables of Acceptance (14.44% against 57.9%), Positive re-appraisal (10.03% against 5.69%), while they had higher means for Self-blame (9.17 against 13.97 percent), rumination (12.06% against 87.17%), and catastrophic hypothesis (13/92 vs 18.08.08), lower mean. Results It also showed that the effects of re-focusing on planning, positive re-focusing, adopting views and blaming others were not significant (P <0.05)

Discussion:

Psychotherapy with cognitive-behavioral approach has proven to be vastly effective on cognitive emotional regulation strategies of patients with premenstrual Premenstrual Dysphoric Disorder. The results showed that among the maladaptive (negative) strategies of cognitive-emotional regulation, self-blame strategies, rumination and catastrophizing decreased significantly and among the adaptive strategies (positive), the acceptance and re-evaluation strategies showed a significant increase. Moreover, the results showed Psychotherapy with cognitive-behavioral approach had a significant effect on emotional regulation strategies of patients with premenstrual dysphoric disorder. The results of this study are in consistent with those from other studies on mood disorders and psychosomatic disorders, including Granefski and Kraaige, 2016 (25); Wu et al, 2016 (41); Bruggink et al., 2016 (23); Eggert et al: 2016 (21); Eggert et al. 2017 (13); Vatankhaah et al., 2012 (42); Andami-Khosk et al., 2013 (43); Mazaheri et al., 2014 (44); Ashoor Mahani and Tashak, 2015 (36); Isa-Zadegan et al., 2015 (1); Samadani, 2015 (35); Adabi, 2013 (45).

According to the previous researches and the present study, it is noteworthy in explaining the cognitive-emotional regulation strategies with cognitive-behavioral therapy approach that the basis of cognitive-behavioral therapy is Beck's theory and in his point of view, proper diagnosis is of utmost importance in psychopathology, as he believes that other aspects, such as emotional, behavioral and physiological aspects, arise from this aspect. Beck believes that treatment should begin with self-awareness, and in this study, more emphasis is placed on identifying negative thoughts, logic errors, and negative main beliefs and cognitive techniques, while at the same time applying behavioral techniques such as relaxation and problem-solving Also used. This treatment can change the beliefs of these people about themselves, others and the world around them. Make them feel positive. Therefore, they will learn negative rumors, ineffective thoughts about self-blame: I guess, it was a mistake for me, and a catastrophic proposition such as: This is the worst thing that can happen to one person, which is a thrilling negative tuning strategy. To put aside the events that are happening to them more positively and reduce their emotional self-awareness. Helping women with CBT techniques to improve cognitive style and using more adaptive strategies for cognitive-emotional regulation and reducing the use of maladaptive strategies for cognitive-emotional regulation have led to cognitive regulation of the emotion of people with premenstrual dysfunction.

Conclusion

Psychotherapy with cognitive-behavioral approach has a significant effect on the emotional regulation strategies of patients with premenstrual dysmorphic disorder, and thus the use of this method in treatment centers is

recommended by psychotherapists and gynecologists to improve symptoms as a solely employed method or along with medication. Also, in view of the wide range of cognitive-behavioral therapies, it is suggested that researchers use other therapies such as the third wave of treatment, such as admission and commitment, and others for premenstrual dysphoric disorder patients in future research.

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Conflict of interest

There is no conflict of interest for the authors of this article.

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Tables and Charts:

Table 1. Frequency and percentage of educational variables, marital status and employment status

VARIABLE		FREQUENCY	PERCENTAGE
DEGREE	Diploma	3	10.7
	Bachelor	7	25.0
	Masters	18	64.3
	Total	28	100
MARITAL STATUS	Single	8	28.6
	Married	20	71.4
	Total	28	100
JOB STATUS	Housekeeper	8	28.6
	Employed	20	71.4
	Total	28	100

Table 2. Descriptive indexes of pre-test and post-test scores of emotional cognitive regulation strategies

	Indexes / strategies	Intervention				Control			
		Min	Max	Mean	SD	Min	Max	Mean	SD
positive strategies (Adaptive)	Positive strategies, pre-test	24	33	30.57	2.44	24	33	28.79	2.97
	Positive strategies, post-test	34	54	41.71	4.89	27	33	30.21	1.89
	Acceptance pre-test	7	13	10	2.72	6	13	8.93	2.76
	Acceptance post-test	9	19	14.86	2.67	5	14	9.14	2.68
	Positive reappraisal pre-test	4	8	4.93	1.44	4	8	5.14	1.46
	Positive reappraisal post-test	6	18	9.86	3.01	4	8	5.86	1.29
	Refocus on planning pre-test	4	7	5.07	1.14	4	7	4.71	1.2
	Refocus on planning post-test	5	8	5.86	0.95	4	7	4.93	0.92

	Positive refocusing pre-test	4	8	4.86	1.23	4	8	5.29	1.64
	Positive refocusing post-test	4	7	5.21	1.05	4	9	5.36	1.5
	Putting into pre-test perspective	4	8	5.71	1.38	4	6	4.71	0.73
	Putting into post-test perspective	4	10	5.93	1.59	4	7	4.93	1
Negative strategies (Mal-Adaptive)	Negative strategies pre-test	56	76	68	7.22	57	76	67.07	7.59
	Negative strategies post-test	44	65	52.21	7.2	54	74	65.64	6.86
	Self-blame pre-test	8	20	14.43	4.16	8	20	13.57	4.91
	Self-blame post-test	6	16	9.71	3.31	7	19	13.46	4.22
	Other-blame pre-test	15	20	16.79	1.81	15	20	16.86	1.51
	Other-blame post-test	12	20	16.21	2.22	15	20	16.57	1.74
	Rumination pre-test	13	20	18	2.29	13	20	17.43	2.77
	Rumination post-test	7	17	12.71	3.05	11	20	17.21	2.69
	Catastrophizing pre-test	16	20	18.79	1.72	17	20	19.21	1.25
	Catastrophizing post-test	9	17	13.57	2.65	15	20	18.43	1.65

Table 3. Multivariate Covariance Analysis Difference between the two groups in post-test dependent variables

Source of Difference	Mean Square	F	Significance level	Chi Eta Square
pre-test	124.821	12.483	0.002	
Group Membership	654.636	65.466	0.001	0.740
pre-test	723.131	31.780	0.001	
Group Membership	1254.040	55.112	0.001	0.706
pre-test	919.474	48.421	0.001	
Group Membership	1012.835	53.337	0.001	0.699

Table 4. Multivariate Covariance Analysis Difference between the two groups in post-test dependent variables

Dependent variables	Source of Difference	Mean Square	F	Significance level	Chi Eta Square
	pre-test	34.268	9.024	0.007	0.301

Acceptance post-test	Group	134.126	35.321	0.001	0.627
Positive post-test reappraisal	pre-test	10.828	2.431	0.134	0.104
	Group	106.767	23.974	0.001	0.533
Refocus on post-test planning	pre-test	0.016	0.026	0.874	0.001
	Group	2.535	4.052	0.060	0.162
Positive post-test refocusing	pre-test	1.906	2.473	0.131	0.105
	Group	0.004	0.005	0.944	0.001
Putting into post-test perpective	pre-test	9.879	7.168	0.014	0.254
	Group	1.001	0.726	0.404	0.033
Self-blame post-test	pre-test	43.306	6.494	0.018	0.227
	Group	130.695	19.597	0.001	0.471
Other-blame post-test	pre-test	11.176	5.222	0.032	0.192
	Group	0.436	0.204	0.656	0.009
Rumination post-test	pre-test	50.957	14.283	0.001	0.394
	Group	191.823	53.767	0.001	0.710
post-test Catastrophizing	pre-test	26.729	7.827	0.010	0.262
	Group	98.497	28.842	0.001	0.567