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European Journal of Experimental Biology, 2014, 4(1):410-414

ISSN: 2248 –9215
CODEN (USA): EJEBAU

The effect of cognitive behavioural therapy on depression in infertile women

Tahereh Hamzeh Pour

Department of Clinical Psychology, College of Basic Science, Lahijan Branch, Islamic Azad University, Lahijan, Iran

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ABSTRACT

The present study was conducted with the aim of investigate the effect of Cognitive Behavioural Therapy (CBT) on depression in infertile women. For this purpose among all the women who had referred to Mehr Proffetionl Clinic during 4 months in Rasht with using Beck Depression Inventory 30 people who had high depression randomly selected and randomly assigned to two 15 subjects experimental and control groups. After an initial assessment of participants' depression, the experimental group went under CBT for 8 sessions of 90 minutes and control group did not receive any intervention. Finally, participants' depression was measured again. Findings from the analysis of covariance showed that CBT significantly has improved the depression in experimental group in comparison with control group. According to findings in present research it can be concluded that CBT can be used as an effective intervention method in women with high depression.

Keywords: infertility, Cognitive Behavioural Therapy (CBT), depression

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INTRODUCTION

Infertility is the inability to conceive after one year of regular sexual intercourse without any contraceptive [1]. Generally infertility falls into two primary and secondary infertility. Primary infertility is a condition that the patient had no history of fertility. In other words, the couples never previously experienced an established pregnancy. But secondary infertility is a condition that existed before a visit one or more pregnancies that which may be either childbirth or abortion and has been followed by a lack of fertilization [2]. Infertility problem takes a deeper dimension especially in our culture that many families are broad and with attention to the role of parents and family in the lives of couples [3] and with a delay in pregnancy, others curiosity and pressure cause to couples concern. This kind of attitude is not only related to Iranian population and also seen in other communities, so that exist similar reactions towards infertility in different communities [4].

The clinical observations indicate that the reaction toward infertility is along with severe negative reactions [5]. Severe adverse reactions, including grief, denial, depression, nervousness, guilt, anxiety, loss of control, self-blame, personal and sexual incompetence, threats to self-esteem, marital distress, sexual dysfunction and problems in relationships with others such as feeling anger toward the couples had children are in this category [6]. In addition, studies have shown the prevalence of psychiatric disorders, especially depression and anxiety in infertile patients [7, 8, 9]. For example, Ramezanzadeh, Aghssa, Abedini, Zayeri, Khanafshar, & Shariat [10] found that in a total sample of 370 female with infertility, 151 (40.8%) female had depression and 321 (86.6 %) female had anxiety.

The use of cognitive-behavioral therapy (CBT) that include different method such as relaxation, cognitive restructuring, biofeedback, systematic desensitization, behavioural training, stop thinking and assertive training as one of the ways to deal with psychological problems during medical treatments have been proposed by many

researchers [11]. Also several studies have shown the effectiveness of CBT on the depression in infertile women [12, 13, 14, 15, 16, 17]. For example, Faramarzi, Alipour, Esmaelzade, Kheirkhah, Poladi, & Pash [18] in a research with title of the treatment of infertile women depression and anxiety, compared the effects of CBT in the treatment of depression and anxiety with Fluoxetine effects on 89 infertile women. Their results showed that CBT alone is not a valid proposal treatment versus medication but best of Fluoxetine acts in treatment or decreases infertile womens depression and anxiety. Also Frouzandeh & Del Aram [19] in their study demonstrated the effectiveness of CBT in reducing depression. According to the above, the present study was to investigate the effect of CBT on depression in infertile women.

MATERIALS AND METHODS

Sample and sampling method

This study is experimental with pretest-posttest with control group design. The population of this research includes all the women who had referred to Mehr Proffetionl Clinic during 4 months in Rasht. Inclusion criteria include over 6 months up to 3 years of infertility diagnosis and being in the age range between 20 to 40 years. With using Beck Depression Inventory 30 people who had high depression (their raw score was on the scale from 29 to 63) randomly selected and randomly assigned to two 15 subjects experimental and control groups.

Data collection

Beck Depression Inventory-Long Form: Beck Depression Inventory-long form is type of self-reporting questionnaires and complete within 5 to 10 minutes. This inventory includes 21 items and will be answered by participants on a scale of 4 degrees. This inventory determines varying degrees of depression from mild to very severe; its grading is from zero to three and its scoring varying from zero to maximum of 63. Scores of 0 to 13 show no or minimal depression, Grades 14 to 19 show mild depression, Grades 20 to 28 show moderate depression and grades 29 to 63 show severe depression. In the Dobson and Mohammadkhani [20] study in addition the factor structure and convergent validity of inventory, internal consistency coefficients for each of the items were reported above 0.90.

Method

After sampling for initial assessment of participants' depression, pre-test was performed for both experimental and control groups, then the experimental group went under CBT for 8 sessions of 90 minutes and control group did not receive any intervention. Finally, the post-test was administered to both groups. Training topics in each session were summarized as follows:

The first session (description session):
(1- Welcome, motivating, overview of the structure and rules of the group meetings, stating the number and duration of meetings and express their expectations of treatment sessions 2- Understanding each other 3- Talk about CBT and interactive expression of thoughts, emotions, anxiety and depression-related behaviors).

Second session:
(1- An overview of the content of the previous session with the active participation of all members 2- Analysis of activating events, beliefs and emotional reactions from the client's perspective 3- Identifying the underlying dysfunctional beliefs and classify them using A-B-C behavior analysis skills in depression and anxiety 4- Talk about positive self-talks and its role in controlling of dysfunctional emotions and behaviors 5- Determine the next session task to identify dysfunctional beliefs underlying anxiety and depression and also the practice of positive self-talks and investigate its effects on the behavior).

Third session:
(1- An overview of the content of the previous session with the active participation of all members 2- Checking the assignments given to the client in the areas of dysfunctional basic belief and positive self-talks 3- Muscle relaxation training 4- Determine the next session task in the field of building muscle relaxation).

Fourth session:
(1- An overview of the content of the previous session with the active participation of all members 2- Checking homework in the field of muscle relaxation and its effects on anxiety and depression 3- Discussion on problem solving skill, its process and its effects on anxiety and depression 4- Providing various examples of problem solving skill and its stages 5- Determine homework in the field of problem solving skills in relation to the problem that individuals are caught).

Fifth Session:
(1- An overview of the content and techniques presented in previous sessions from the beginning of therapy sessions up to now 2- Review homework on problem solving 3-Discussion on objective analysis, logical analysis and benefit analysis in relation to anxiety and depression 4- Providing homework on logical analysis, usefulness and objectivity in relation to anxiety and depression).

Sixth Session:
(1- An overview of the content presented in previous session with the active participation of all members 2- Review homework on objective analysis, logical analysis and benefit analysis 3- Discussion in the field of social skills such as assertiveness, interpersonal skills and self-control 4- Providing homework on social skills).

Session Seven:
(1- An overview of the content of the previous session with the active participation of all members 2- Review homework on social skills 3- Discussion on the role of attribute in behavior and in particular its role in the treatment of anxiety and depression and also training in relation to opposed beliefs and experience two incompatible emotional states 4- Determine homework in the field of attribute, opposed beliefs and experience two incompatible emotional states in relation to the problem that client is suffered).

Session Eight:
(1- An overview of the all content and techniques presented in previous sessions from the beginning of therapy sessions up to now 2- Checking the assignments given to the client in the areas of attribute, opposed beliefs and experience two incompatible emotional states 3- Discussion on the stop thinking and biofeedback and their role in control and reducing anxiety and depression 4- Determine homework in the field of stop thinking, biofeedback and their role in the control and reducing anxiety and depression).

RESULTS AND DISCUSSION

Table 1 shows mean and standard deviation of pre-test and post-test for experimental and control groups in the Beck Depression Inventory. According to Table 1 the mean of experimental group depression in the pre-test is 20.73 and in the post-test is 10.13 which represents a reduction in the depression scores of the experimental group while the mean of depression at control group pre-test and post-test did not change appreciably.

Table 1: The mean and standard deviation of the experimental and control groups on the variables of depression

Group	Test	M	SD
Experimental	Pre-test	20.73	3.61
	Post-test	10.13	1.95
Control	Pre-test	19.20	2.59
	Post-test	19.60	2.55

Table 2 shows adjusted mean and standard deviation at post-test of experimental and control groups. As table 2 shows the mean scores of depression in the experimental group is less than the control group.

Table 2: The adjusted mean and standard deviation of the post-test scores

Group	Number	M	SD
Experimental	15	9.78	0.47
Control	15	19.94	0.47

Covariance analysis was used to evaluate research data. Tables 3 and 4 show the assumptions of homogeneity of variance and regression. Because the calculated F in both cases is more than 0.05, the data did not question the assumptions of homogeneity of variance and regression.

Table 3: Check the assumption of homogeneity of variances

F	d.f1	d.f2	P
0.00	1	28	0.92

Table 4: Check the assumption of homogeneity of regression

Source of change	SS	d.f	MS	F	P
Group and pre-test	15.17	1	15.17	5.32	0.05

Based on the results of table 5 and according to the calculated F (P < 0.001, F = 220.08, d.f = 1/27, Eta = 0.89) because the significance level is less than 0.001, thus the calculated F is statistically significant that this findings suggest that CBT is effective in reducing depression.

Table 5: Analysis of covariance on the effect of CBT on depression

Source of change	SS	d.f	MS	F	P	Effect size	Test power
Corrected model	743.41	2	364.11	110.17	0.00	0.89	1.00
intercept	23.55	1	23.55	7.12	0.01	0.20	0.73
Pre-test	56.10	1	56.10	16.97	0.00	0.38	0.97
group	727.38	1	727.38	220.08	0.00	0.89	1.00
Error	89.23	27	3.30				
Total	7448	30					
Corrected total	817.46	29					

DISCUSSION AND CONCLUSION

The present study was conducted with the aim of investigate the effect of CBT on depression in infertile women. The data analysis showed that CBT is effective in reducing depression in infertile women. The findings of this research are consistent with studies that have been reported that cognitive behavioral intervention is effective in reducing depression in infertile women [12, 13, 14, 15, 16, 17].

What can we pointed in analyze these findings is the fact that emotional problems are the result of irrational beliefs. Irrational beliefs are the beliefs that in the pursuit of facts do not have rational way. Consultant teach to client that physiological, cognitive and behavioral processes in humane being interactions with one another and emotions have physiological, cognitive and behavioral components. Hence, such an approach in CBT in controlling and reducing depressive behaviors not only with using of cognitive techniques challenges irrational cognitive processes that have been exaggerated, but with using of behavioral techniques the depressive behaviors are targeted. So that, depressive behaviors carefully evaluated and will be operational definition, factor or factors that are involved in strength it identified and then will be control and reduction. At this time the individuals to achieve cognitive competence and behavioral adequacy and can be have rational behaviors appropriate environmental conditions. On the other hand, in the therapy sessions tried to through homework that represent to people in the end of each session would be more the effectiveness of this method.

Finally, some of limitations of this study was the small number of sample due to dropping samples to causes such as lack of implementation of some cognitive-behavioral techniques and lack of cooperation some people in the post-test. Also, since subjects in this research were studied from the initial treatment to phase of Intra Uterine Insemination (IUI) and followed the subjects until they achieve a positive pregnancy test was not possible it is recommended that in the future conduct researches regarding the impact of CBT on the success of assisted reproductive techniques and its effects on anxiety in patients undergoing infertility treatment until the phase of the results of pregnancy test. Furthermore, these results highlighted the need to developing mental health units and composing the psychologists and counseling teams along with medical teams in infertility clinics and the importance attention to couples mental disorders in infertility treatment.

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