

# The Effect of Cognitive-Behavioral Group Therapy on Depression and Coping Styles of Women Exposed to Marital Infidelity

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## Abstract

**Background:** Betrayal and marital infidelity are a kind of disorder and illness in behavior, which, due to its adverse effects, causes various injuries and problems for each person. This study aimed to determine the effect of training, based on cognitive-behavioral group therapy (CBGT), on depression and coping styles of women exposed to infidelity of a spouse, of course, the marital infidelity did not continue.

**Methods:** This research was quasi-experimental, including pretest-posttest and control group. The population consisted of all women seeking psychological services due to the infidelity of their husbands during the second half of the Iranian year (from late September to late March) in 2017. Twenty two volunteers who met the requirements of the study were selected and randomly divided into two groups, experimental group (11 patients) and control group (11 patients). The experimental group participated in the 8th sessions (once a week, for 90 minutes) of CBGT. Subjects in both groups were asked to take a pre-test and post-test, responding to Coping Inventory for Stressful Situations Questionnaire and Beck Depression Inventory. Statistical analysis was performed using SPSS software version 13. To analyze the data, the descriptive statistics and analysis of covariance test were used.

**Results:** The results showed that there was a significant difference between the mean of depression ( $54.10 \pm 5.3$ ) and coping styles in the experimental group comparing with the post-test ( $P < 0.001$ ). The mean of problem-focused coping ( $09.58 \pm 35.7$ ) of the experimental group increased in the post-test compared with the pre-test and the mean of the experimental group's avoidance coping ( $90.48 \pm 88.4$ ) and emotion-focused coping ( $25.41 \pm 59.11$ ) decreased in the post-test compared with the pre-test. Thus, CBGT reduces depression and the use of ineffective coping styles (emotional and avoidance-coping styles), as well as, increasing the use of effective coping style (problem-focused coping style) in women after the marital infidelity of their spouses. It can be concluded that the implementation of CBGT has affected women after the marital infidelity of the spouse, which was 0.61 and created by an independent variable intervention. Also, the statistical power was 0.99.

**Conclusions:** According to the results, it can be concluded that training, which is based on CBGT can improve depression and coping styles in women who exposed to infidelity of a spouse. It is suggested that counselors and psychologists use CBGT in dealing with women after the marital infidelity of their spouses. This way can help reduce their depression, behavioral abnormalities, and also improve coping styles.

**Keywords:** Depression, Coping Skills, Cognitive-Behavioral Group Therapy, Women

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## 1. Introduction

Family is one of the most famous social systems between two sexes. The family as a social unit is the center of growth and evolution, healing, and transformation of injuries and complications, which are both a base of flourishing and a platform for the collapse of relations among its members (1). Marital infidelity is a phenomenon that often occurs because of the emotional needs of the individual through the relationships outside marriage (2). Infidelity and marital infidelity are a kind of disorder and illness in behavior, which, due to its adverse effects, causes various injuries and problems for each person (3). Depression is an emotional state characterized by intense grief, guilt feelings, low self-worth, loss of sleep, appetite, and loss of sex drive, and also lack of interest in everyday

activities. Statistics from different parts of the world indicate the high prevalence of this disease to the extent that experts have considered recent decades as a period of depression in the history of psychiatry; moreover, according to them, the anxiety that was considered the most important psychiatric disorder has been replaced by depression after world war II (4). Depression is one of the most common psychiatric disorders (5). Since depression has a high prevalence, the incidence of this disorder is about 20%. Despite the importance of depression, only a few people with this disorder can benefit from appropriate treatment (6). The ways people use to deal with events or stressful stimuli are different from each other. Coping strategies used by the individual may lead to reduced psychological pressure and also the effective coping approach; however, some coping responses may worsen the problem or

create a new problem (7). In the cognitive-emotional theory, stress is expressed if a person is evaluated as a challenging and overwhelming situation that does not have enough resources to accommodate this situation (8). Therefore, in accordance with the mentioned viewpoint, stress has been defined by the body and mind for the use of adaptive or coping capacities. But what can be a source of optimism and hope is “ coping styles with stress “; which can affect the stress outcomes as a mediator variable (9).

With psychological treatments, people’s thoughts can be restored to better deal with mental pressure, one of these treatments is cognitive-behavioral group therapy (CBGT). CBGT is a combination of two approaches in behavioral therapy and cognitive therapy. In fact, in this approach, the strengths of the approach in behavioral therapy and cognitive-therapy approach, namely objectivism of evaluation and measurement, and the involvement of the role of memory in reconstruction and interpretation of information, have been gathered. Therefore, CBGT is an educational process in which cognitive-behavioral techniques are taught through homework (10). CBGT is one of the psychotherapy methods that may affect coping styles. Some findings in Iran have also shown that this treatment is effective in changing the coping styles of normal people because coping is a behavioral and cognitive effort to solve a problem and to manage needs, and requires skills such as constructive thinking, flexibility in behavior, knowledge of capabilities, and position (11). So education consists of cognitive and behavioral techniques and the goal is to find solutions for patient issues (12). Several research findings have shown that the use of effective coping strategies is associated with increased psychological well-being and reduced psychological problems (13).

Orang and colleagues investigated the treatment of post-traumatic stress disorder in betrayed wives. The results of the statistical analysis indicated that post-traumatic stress and two components of its three components (unwanted thoughts and arousal) in the experimental group immediately decreased after the treatment and maintained their descending trend up to three months later (14). Moghadam and co-workers conducted research on the effect of CBGT on coping styles of cancer patients in Ahwaz, Iran. The results showed that CBGT has a beneficial effect on coping styles; it also reduces the avoidant and emotional coping style and increases the behavioral, cognitive, and problem-oriented coping style (15). Saleh and colleagues studied the effect of CBGT on depression

of students. The findings showed that CBGT has a significant effect on depression in students in the post-test stage (16). Wesner and colleagues studied the effect of cognitive-behavioral group therapy on the coping styles of people with panic attacks. The results of this study indicated that CBGT while decreasing the severity of panic disorder in patients, was also effective in increasing the use of adaptive styles and reducing the use of coping styles of escape and avoidance (17). Therefore, considering the impact of effective coping strategies on physical and mental health and the fact that learning how to deal with stress is something that is more useful and easier than keeping them from psychological pressures.

## 2. Objectives

The aim of this study is to determine the effect of training, based on CBGT, on depression and coping styles of women exposed to infidelity of spouse.

## 3. Methods

The method of this research was quasi-experimental design, including pretest-posttest and control group. The statistical population of the present study consisted of all women who were referred to clinics of psychology, counseling, and welfare centers in the west of Tehran in 2017 due to their wife’s marital infidelity. From the research population, 71 volunteers were selected and responded CISS-21 coping questionnaire. Then, among 71 participants, 22 patients who had criteria for entering the research and in the Beck Depression Inventory scored more than 21, also, according to CISS-21 coping questionnaire results those who used incompatible coping styles were selected and randomly divided into two groups including experimental group (11 patients) and control group (11 patients). According to Cochran’s formula, the sample size was 22. In the sample size formula,  $\alpha=0.05$  and confidence level of %95 were determined. The formula for calculating the Cochran sample size is as follows:

$$n = \frac{\frac{Z^2 pq}{d^2}}{1 + \frac{1}{N} \left( \frac{Z^2 pq}{d^2} - 1 \right)}$$

The participants whose scores were below the standard deviation were selected if they had criteria for entering the research and randomly assigned to the experimental group and the control group. Written

informed consent was obtained from the participants to begin the treatment. Then, the experimental group during the 8<sup>th</sup> sessions (once a week, for 90 minutes) were trained on CBGT and after completion of training, from both groups, Coping Inventory for Stressful Situations and Beck Depression Inventory post-tests were performed. The criteria for entering the research were using a good public intelligence and to place scores of a standard deviation lower than the average. Exclusion criteria also included the use of certain substances or drugs that affect consciousness, lack of cooperation in the conduct of tests, having severe psychiatric disorders and absences in more than 2 sessions. Statistical analysis was performed using SPSS software version 13. In order to analyze the data, the descriptive statistical index (Mean and Standard Deviation) and analysis of covariance test (MANCOVA and ANCOVA) were used.

### 3.1 Research Tools

#### 3.1.1 Coping Inventory for Stressful Situations (CISS)

This tool was first created by Endler and Parker in 1994 (18). The Coping Inventory for Stressful Situations (CISS) is a self-report measure of coping patterns. It consists of 48 items on a 5-point scale that using the Likert method (1=not at all, 5=very much). There are three subcategories: problem-focused coping (focus on the problem and its solutions), emotion- focused coping (focus on the emotions of the problem), and avoidant coping (in which escape mechanisms are used). The dominant coping style is determined by the score obtained in this test; this means that each of the behaviors has the highest scores on the scale. According to the findings of the test, experts and psychologists especially clinical psychologists have concluded that the test is well suited for measuring coping styles. There is a high correlation between stress coping styles and types of occupational identities at the level of 0.05. In Iran, the alpha coefficient of the subscale of the problem-oriented coping scale was 0.75 and the emotional-focused coping subscale was 0.82 and the avoidance coping scale was 0.73 (19). In the current study, Cronbach's alpha was 0.82 for the problem-focused, 0.88 for the emotional scale and 0.88 for the avoidance.

#### 3.1.2 Beck Depression Inventory (BDI, BDI-1A, BDI-II)

This questionnaire created by Aaron T. Beck, is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for

measuring the severity of depression (20). Beck Depression Inventory (BDI) is scored based on a 4-point Likert scale, from 0 to 3. The total score ranges from 0 to 63. Scores from 0 to 13 indicate no or minimal, 14 to 19 show mild, 20 to 28 indicate exact, and 29 to 63 show severe depression. The scores less than 4 can indicate a possible denial of depression, which is pretending good and usual, even for healthy people. The results of the meta-analysis of the BDI show that its internal consistency coefficient ranges from 0.73 to 0.93 with an average of 0.86. Research on BDI-II consistently showed high internal consistency coefficients in the ranges of 0.89-0.94 even in different populations. In research conducted by Stefan-Dabson and co-workers, the total score of BDI for each of the 21 items was equal to 0.913 (21). In general, the internal consistency coefficients of each item and other characteristics of the questionnaire, Cronbach's alpha coefficient, showed that BDI has a good reputation and the scores obtained from the BDI can be trusted for statistical analysis and psychometric analysis. The evidence of factor validity of the BDI, by calculating the internal correlations between 21 items of the questionnaire in 353 subjects, showed that all of the tests have three factors to be extracted. The construct validity was calculated based on the convergent validity method. The correlation coefficient of the BDI and the depression scale (with 6 items) of the syndrome questionnaire were calculated ( $\alpha = 0.873$ ). In this study, Cronbach's alpha for BDI was calculated to be 0.69.

The overall strategy of CBGT was identified by Michael L. Free in 1999 (22). It is a combination of speech interventions and behavior change techniques that include helping clients identify their misconceptions, test the basics of cognition, correct distorted conceptualizations, and ineffective beliefs. This intervention is based on practice and emphasis on evaluation. The objectives, content and techniques of therapy sessions are given in Table 1.

## 4. Results

Based on the results, statistics such as frequency and percentage of demographic data and other statistical information are provided in Table 2.

Table 3 presents descriptive results of the coping styles questionnaire at the pre-test and post-test in each group. As outlined in Table 3, mean of problem-focused coping strategy scores of experimental group members, in the post-test compared with pre-test, had a considerable increase and mean of emotion-focused

**Table 1:** The program of cognitive-behavioral group therapy

Sessions	The content of each session
First session	Introduction, communication, pre-test, familiarization with the principles and objectives of the meeting, teaching ABC pattern, identifying beliefs and problems, familiarizing them with the style of explanation, providing the assignment, and receiving feedback
The second session	Reviewing the summary of the previous session and reviewing the assignments of cognition and definition of feelings, goal expression, and rules of cognitive-behavioral therapies, assignment, and feedback
The third session	Review the assignments of the previous session, train the cognitive model and familiarize yourself with thoughts, techniques for identifying thoughts, self-identity, familiarizing and identifying cognitive distortions, replacing interpretations, taking thought into consideration, giving assignments, and receiving feedback
The fourth session	Learning the technique of identifying central beliefs and schemas, learning the concepts of self-efficacy, resilience and emotion regulation, and the expression of strategies to achieve these goals, providing homework and getting feedback
The fifth session	Reviewing previous session assignments, enhancing resilience techniques, self-efficacy, identifying cognitive errors, planning and setting goals, providing assignments and receiving feedback
The sixth session	Reviewing previous session assignments, self-expression skills, empathy, emotional awareness of others, decision-making skills, assignment, and feedback
The seventh session	Reviewing the previous session assignments, teaching techniques for reducing expectations, making good use of the present, living in the present, techniques for reducing stress with deep breathing, providing homework, and receiving feedback
The eighth session	Reviewing previous session assignments, teaching techniques for avoiding negative thoughts, identifying self-control methods, teaching problem-solving skills, receiving feedback, and finally implementing the post-tests

**Table 2:** Frequency and frequency percentage of age, occupation, and education of women after marital infidelity in experimental and control groups

Groups	Indicator	20 to 25 years	25 to 30 years	30 to 35 years	35 to 40 years	Total
Experimental	F	0	0	5	6	11
	F(percent)	--	--	45.5	54.5	100
Control	F	3	4	0	2	9
	F(percent)	33.3	44.4	--	22.2	100
Groups	Indicator	Freelance	Student	Employee	Housewife	Total
Experimental	F	1	1	5	4	11
	F(percent)	9.1	9.1	45.5	36.4	100
Control	F	1	1	5	13	9
	F(percent)	5	5	25	65	100
Groups	Indicator	Diploma	Post diploma	Bachelor		Total
Experimental	F	2	2	7		11
	F(percent)	18.2	18.2	63.6		100
Control	F	5	2	2		9
	F(percent)	55.6	22.2	22.2		100

**Table 3:** Mean and standard deviation of study variables (coping styles and depression)

Groups	Variables	Pre-test	Post-test
		Mean±SD	Mean±SD
Experimental	Problem-focused Coping	44.45±8.5	58.09±7.35
	Emotion- focused Coping	56.81±8.8	41.25±11.59
	Avoidant Coping	42.54±5.18	48.90±4.88
	Depression	25.09±4.9	10.54±3.5
	Problem- focused Coping	43.44±7.41	44.77±7.39
	Emotion- focused Coping	50.66±11.09	51.44±10.69
Control	Avoidant Coping	40±12.86	41.33±13.34
	Depression	28.11±8.9	28.55±8.45

coping and avoidant coping scores of experimental group members had a considerable reduction. These changes were not observed in the control group.

The mean of depression in the experimental group in the post-test was decreased compared with the pre-test, but the mean depression in the control group in the post-test was not significantly different from the pre-test. The results of the Kolmogorov-Smirnov test analysis showed that P values were higher than 0.05, and it was obvious that the distribution of data was normal in all aspects. The variables depression and coping styles with stress were greater than the calculated levels of F Leven's 0.05. Therefore, F Leven's null hypothesis in these scores was proved and implementation of covariance was possible.

The homogeneity assumption test showed that the interaction between the pre-test of depression and the dependent variable ( $P=0.633$ ,  $F=0.579$ ) was not significant. Also, the interaction between the pre-test of stress coping styles and the dependent variable ( $P=0.9999$ ,  $F=0.69$ ,  $P=0.69$ ) was also not significant. The non-significant interactions indicated that the data supported the homogeneity hypothesis of regression slopes. Therefore, covariance was performed to test the effects of the main variables of post-test depression, emphasized the coping styles as the dependent variable. Meanwhile, the means of society were similar in both the experimental and control groups.

Because at 95% confidence level and measurement error of 5%, the significance level of Wilkes Lambda test was less than 0.05 [ $(P<0.001)$ ,  $F=30.85$ , Wilks'

$\Lambda=0.082$ ], so the null hypothesis was rejected and the research hypothesis was confirmed; meaning that there was a significant difference between the two groups at least in one of the tested variables. Table 4 is about multivariate analysis of covariance (MANCOVA).

Based on the significance levels calculated for F variables (pre-test variables of research) and dependent variables for the linear analysis of the regression for depression ( $P<0.006$ ,  $F=10.44$ ), for the problem-focused coping circuit ( $P<0.002$ ,  $F=16$ ), for the emotion- focused coping ( $P<0.001$ ,  $F=25$ ), and for avoidance coping style ( $P<0.001$ ,  $F=65.08$ ). All of them are meaningful at the significance level of 0.05. In addition, the linear assumption of the regression and the dependent variable was observed. Based on the computational summary of the effects between the subjects of depression scores and coping styles with regard to the degree of error (individual differences and after eliminating the possible effect of pre-tests, the significance level F calculated for depression ( $P<0.001$ ,  $F=103.20$ ), for the problem-focused coping ( $P<0.001$ ,  $F=20.79$ ), for the emotion coping style ( $P<0.001$ ,  $F=27.19$ ), and avoidance-coping ( $P<0.021$ ,  $F=6.75$ ) are less than 0.05.

As a result, it can be concluded that the implementation of CBGT affected depression and coping styles among women after the marital infidelity of the spouse. The magnitude of this effect was 0.88 for depression, 0.86 for the coping style of the excitement circuit, 0.59 for the coping style of the problem-focused coping, and 0.32 for the avoidance coping style, which

**Table 4:** Summary of multivariate analysis of covariance of depression and coping styles in experimental and control groups with the elimination of interaction

Source of change		Sum of squares	DF	Mean of squares	F	P
Pre-test	Depression	132.73	1	132.73	10.44	0.006
	Problem-focused Coping	335.51	1	235.51	16.002	0.002
	Emotion- focused Coping	1110.46	1	1110.46	25	0.001
	Avoidant Coping	758.23	1	758.23	65.08	0.001
Between Groups	Depression	1311.96	1	1311.96	103.20	0.001
	Problem-focused Coping	436.008	1	436.008	20.79	0.001
	Emotion- focused Coping	1208.17	1	1208.17	27.19	0.001
	Avoidant Coping	78.71	1	78.71	6.75	0.021
Error	Depression	177.96	14	12.71		
	Problem-focused Coping	293.54	14	20.96		
	Emotion- focused Coping	621.87	14	44.41		
	Avoidant Coping	163.08	14	11.64		
Total	Depression	9257	20			
	Problem-focused Coping	56144	20			
	Emotion- focused Coping	44815	20			
	Avoidant Coping	43352	20			

**Table 5:** Summary of analysis of covariance (ANCOVA) of depression and coping styles in experimental and control groups to test the interaction

	Source of change	Sum of squares	DF	Mean of squares	F	Sig	P
	Pre-test	430.44	1	430.44	27.66	0.001	
Depression	Between Group	1306.34	1	1306.34	83.96	0.001	0.99
	Inter group	264.5	17	15.55			
	Total	9257	20				
	Group	50.51	1	50.51	0.078	0.783	
Problem-focused Coping	Error	1162.94	18	64.60			
	Total	39888	20				
	Group	187.31	1	187.31	1.91	0.183	
Emotion- focused Coping	Error	1761.63	18	97.86			
	Total	60377	20				
	Group	32.07	1	32.07	0.362	0.555	
Avoidant Coping	Error	1761.63	18	97.86			
	Total	35904	20				

were created by the intervention of the independent variable. Statistical power is also reported for depression, for coping style of emotion-focused coping was 0.99, for coping style of problem-oriented was 0.98, and for avoidance coping style was 0.67. In other words, the probability of type 1 error for the depressive and the emotion-focused coping was 0.01 and for the problem-focused coping was 0.02, and for the avoidance coping style was 0.33. Based on the computational summary of the effects between subjects of depression scores with regard to the degree of error (individual differences and after eliminating the possible effect of pre-tests, the significance level F and P was calculated ( $P=0.001$ ,  $F=83.96$ ), which was less than 0.05. Therefore, it can be concluded that the implementation of cognitive-behavioral therapy affected women after the marital infidelity of the spouse, which was 0.61 and created by independent variable intervention. Also, the statistical power was reported to be 0.99. P-value was 0.001 and the level of significance was 0.05. In other words, the probability of type 1 error was 0.01.

Also, in Table 5, the results of univariate analysis of covariance (ANCOVA) are presented to investigate the rate of depression and coping styles in women after spouse infidelity, in pursuit of the independent variable of education based on cognitive behavioral therapy. As a result, it can be said that cognitive-behavioral-based treatment among the women after spouse infidelity was effective.

## 5. Discussion

The results of this study showed that the training, based on CBGT, of depression and coping styles of the women exposed to infidelity of the spouse was effective.

Based on a behavioral viewpoint, where depressed patients are usually passive people, behavioral interventions create feelings of domination and choice. According to the learned helplessness model, depressed people are not able to influence the environment. They gain control over CBGT and can influence their environment. This finding, which was in line with the study results of Noroozi and colleagues (23), Shayan and co-workers (24), Jeyantham and colleagues (25), and Wiles and co-workers (26) showed that the effect of cognitive-behavioral education on depression in different affected groups was homogenous. These results with regard to the role of cognitive factors (dysfunctional thoughts, underlying assumptions, and impaired information processing), in the incidence of depression in women after marital infidelity can be explained. Actually, the main role of the cognitive-behavioral therapist is to question them by discussing irrational beliefs in different ways (27). The betrayed women are vulnerable a lot to the marital infidelity of their spouse and suffer from catastrophic thoughts that cause a negative bias towards the improvement in their relationship. Women affected by marital infidelity are gradually drawn to helplessness and unfairness, and this prevents them from many positive experiences. Isolation and withdrawal affect one's own perceptions, and the combination of these factors causes the person to experience inefficiency and inferiority and lose many effective opportunities. With the use of cognitive therapy, which included the correction of negative automatic thoughts and the underlying assumptions of women affected by husband's marital infidelity, the attitude of the individual about the marital infidelity and its effects was challenged (28). Since the activity planning helps to minimize the chances of failure in reaching the daily schedule, women are encouraged

to value the increase in the level of daily activity and to strengthen positive thinking. Another issue was the weak interpersonal relationships (often aggressive or passive) that leads to rejection by others and leads to more social isolation in these women. Therefore, one of the goals of the treatment was to communicate properly, bravely and expressively with these women in order to encourage good social relationships and empowerment (29).

The outcomes of this investigation are consistent with the findings of Jalali and colleagues (30), Wesner and co-workers (31), and Wesner and colleagues (17), they showed CBGT is effective in coping styles in different groups. According to the results of this research, intervention based on CBGT has led to an increase in problem-focused coping style and reduction in the levels of emotional-avoidance coping styles, which is in consistent with a research on patients with Multiple Sclerosis (32). The findings of the present study showed that the subjects were more likely to be impulsive in dealing with the problems at the beginning without considering the outcome, but after the treatment, they were treated with problems logically with regard to outcome. Also, they realized that they had to accept the problems and take action to resolve them, learn to see the issues clearly, control their feelings, and find more realistic expectations. The secret of the success of CBGT seems to be the emphasis on identifying cognitive errors and informing patients (33). Since the process of identifying and knowing the thoughts cannot be done with medication in any way, it is necessary to emphasize cognitive-behavioral therapies.

## Conclusion

In general, we can say that CBGT can be proven by identifying negative automatic thoughts, correcting cognitive distortions and problem-solving skills, and creating behavioral changes for these women in achieving more effective treatment. The limitations of this research were using self-report questionnaires and lack of follow-up assessment. It is recommended that these studies be conducted on men and their results compared with the present study. According to the results of the research, which showed that CBGT affects women's depression after husband's marital infidelity, it is suggested that counselors and psychologists use CBGT in dealing with women after the marital infidelity of their spouses. This way can help reduce their depression and behavioral abnormalities and also improve coping styles.

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## Conflict of Interest

The authors declared no conflicts of interest.

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