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Research Paper: The Effectiveness of Cognitive Behavioral Therapy on Coping Strategies and Depressed Women's Quality of Life

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Abstract

Depression is the most common psychiatric disorder. It is twice as prevalent in women as men, seriously affecting the mental health of the former group. Therefore, it is crucial to use therapeutic modalities to reduce it. For this reason, this study aimed to investigate the effectiveness of cognitive behavioral therapy on coping strategies and depressed women's quality of life. This research employed a quasi-experimental method with pre-test and post-test design studying an experimental and a control group. The population consisted of all women who were referred to counseling centers in Mashhad in 2018, scored higher than 13 on the Beck depression test. Through purposive sampling method, 30 of them were selected as a sample and then randomly divided into an experimental and a control group (15 in the experimental group - 15 in the control group). The Beck Depression Inventory (II-BDI), The Coping Inventory for Stressful Situations (CISS), and The World Health Organization Quality of Life Questionnaire-Brief Version (WHOQOL-BREF) were used to collect data. The data were analyzed conducting MANCOVA. The findings indicated that there was a significant difference between the experimental and control groups in the post-test of emotion-focused and avoidance coping strategies ($P<0.05$). However, there was no significant difference between the two groups in the problem-focused coping strategy ($P>0.05$). Correspondingly, the results of the quality-of-life questionnaire indicated a significant difference between the two groups in the variables of social, psychological, physical, and environmental quality of life ($P<0.05$). As a result, it can be said that cognitive behavioral therapy can be used as an efficient therapeutic modality to reduce emotion-focused and avoidance coping strategies in depressed patients in the clinical environment. Similarly, using this therapeutic modality increases the level of quality of life in these patients.

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1. Introduction

Nowadays, one of the disorders that have become very prevalent in women is depression, threatening their mental health (Sadock & Ruiz, 2015). This disorder is characterized by anhedonia, seclusiveness from family and friends, lack of motivation and intolerance of failure, decreased sexual desire, weight loss or gain, and sleep disturbance (Chen et al., 2000). One of the fundamentally important consequences of this disorder is the disturbance in occupational, social, and interpersonal functioning (Yanartas et al., 2016). The prevalence of depression in women varies from 12% to 15% in mixed methods, but in different groups, this incidence is different. For example, the prevalence of depression in women varies from 5% to 25% in developed countries, and other risk factors involved in women suffering from depression include gestational diabetes, depression during pregnancy, and epidural anesthesia during delivery (Liu et al., 2022). One of the dimensions that are strongly affected by depression in women's lives is the quality of life (Hajek & König, 2022).

Quality of life is one of the crucial issues in today's health care and one of the greatest health goals to improve people's health, strongly affected by depression (Oei & McAlinden, 2014). The World Health Organization considers quality of life as a multidimensional concept and defines it as the understanding of each person's life, values, goals, standards, and individual interests. The sense of security, emotional conflicts, personal beliefs, goals, and the level of tolerance against failures and frustrations are effective in determining the type of self-perception of a person (Salsman et al., 2013). Research has indicated that in different groups of women, including women with breast cancer (Aydin et al., 2021) and pregnant women (Soyemi et al., 2022), women who are constantly subjected to brutality (Ngocho et al., 2022) women who are exposed to chronic physical diseases such as cancer (Kugbey, 2022), depression is one of the factors that severely reduces their quality of life level.

One of the prominent components of the quality of life and one of the important factors causing and perpetuating depression is the type of coping strategies an individual adopts in stressful situations. People use different coping strategies to get rid of psychological pressure caused by different diseases.

Lazarous and Folkman (1984) consider coping as a person's intellectual, emotional and behavioral efforts that are used when faced with psychological pressure to overcome, tolerate or minimize the effects of psychological pressure (Borna et al., 2015). According to Lazarous and Folkman (1984), there are two types of coping strategies, problem-focused coping and emotion-focused coping. Problem-focused coping is a cognitive strategy in which an individual directly faces one's problems and endeavors to solve them. Emotion-focused coping is an attempt at being emotionally responsive to stress, especially with the help of defense mechanisms. In this way, a person avoids everything, justifies or denies the events that have happened, or rely on his/her religious faith against them (Kharamin et al., 2008). Endler and Parker (1990) have also divided people into three groups of people with problem-focused, emotion-focused, and avoidance coping strategies according to their chosen coping strategy.

Cognitive behavioral therapy is an efficient therapeutic modality used to improve coping strategies as well as individuals' quality of life, suffering from depression. Cognitive behavioral therapy has emerged from the combination of two approaches, behavioral therapy, and cognitive approach, either in the form of cognitive therapy or in the framework of cognitive psychology and basic cognitive science. Nowadays, this approach contains relatively different theories and attitudes, the only common aspect of which is paying attention to the mediating role of cognitive processes in information processing and the emergence of a person's response to stimuli. This approach uses terms and concepts that somehow make sense in the behavioral framework and are considered to be able to be evaluated and measured (Hayes et al., 2017).

This therapeutic modality helps the patient to identify his/her negative thoughts and examines them. The core of the cognitive behavioral approach is mainly based on self-help; additionally, the goal of the therapist is to help the patient to develop necessary skills not only to solve current problems, but also to develop similar problems in the future. Generally, it can be said that the goal of this treatment is to identify and reconstruct irrational beliefs and beliefs concerned with self, others, and the world, which play an essential role in creating emotional disturbances and maladaptive behaviors. Moreover, this approach is inherently respectful and cooperative and increases the self-efficacy of the therapist (Pearson, 2008). In addition, reinforcing coping skills, training intrapersonal as well as interpersonal skills, and reinforcing the control of painful emotions such as anxiety and anger are essential tasks in this treatment (Beck, 2011). Up to the present, the effect of cognitive behavioral therapy on increasing marital quality (Shayan et al., 2018), improving hopefulness as well as increasing psychological well-being (Baker et al., 2016), improving depression and quality of life (Oei & McAlinden, 2014; Ingram et al., 2021), mood disorders (Sugarman et al., 2010) have been confirmed.

Considering the importance of women's standing in society and their role in the comprehensive development of the country, being aware of their health status, knowledge and the factors affecting it should be the basis of appropriate planning and policy-making to improve their progress status (Ghorbani & Golchin, 2008). Depression is one of the most common disorders that endangers the health of this group. It is crucial to take measures to prevent and treat this disorder to increase the quality of life and health of this group. Improving coping strategies when dealing with stressful situations is one of the best ways to achieve this goal. One of the prioritized treatments in improving people's coping strategies is cognitive behavioral therapy. Therefore, the main issue in this research is whether cognitive behavioral therapy is effective in coping strategies and impacting depressed women's quality of life.

2. Method

In this research, a quasi-experimental method was used, running a pre-test and post-test with an experimental and a control group. The population of this research included all women who were referred to counseling centers in Mashhad in 2018, on

whom the Beck depression test was first performed. The participants who scored higher than 13 on the Beck depression test (30 women) were selected as a sample using the purposive sampling method. They were randomly assigned into the experimental group and the control group (15 women in each). The treatment administered to the experimental group and during this period, no treatment was given to the control group. Before the start of the treatment sessions, questionnaires were completed by both groups. After the completion of the treatment sessions, the questionnaires were completed again and the results of the two groups were compared. To comply with the ethical principles, after the end of the research, the treatment period was administered to the participants of the control group. Inclusion criteria: having a depression score higher than 13 on the Beck depression test, not using psychiatric medications at the same time, and not using other therapeutic modalities concurrently. Exclusion criteria: the presence of concurrent psychiatric disorders with depression and being absent in at least 2 treatment sessions. Descriptive statistics and inferential statistics (multivariate analysis of covariance, MANCOVA) were used for data analysis with SPSS 22 software. Written consent was obtained from all participants for participating in the research.

2.2. Tools

Beck Depression Inventory (BDI-II): This questionnaire was created by Beck (1961) to measure the feedback and symptoms of depressed patients. The questionnaire consists of a total of 21 items related to different symptoms to be completed on a four-point scale from zero to three. These items are in areas such as sadness, pessimism, feelings of helplessness, failure, guilt, sleep disturbances, loss of appetite, self-loathing, etc. Accordingly, 2 items are dedicated to emotion, 11 items to cognition, 2 items to overt behaviors, 5 items to physical symptoms, and 1 item to interpersonal semiotics. Therefore, this scale determines different degrees of depression from mild to very severe, and its scores range from minimum, zero, to maximum, 63, (none or minimal depression: 0 to 13; mild depression: 14-19; moderate depression: 20-28; severe depression: higher than 29). Beck (1961) obtained the test-retest reliability coefficient of 0.93 after one week. Various studies were conducted on the validity of this questionnaire. Its average correlation coefficient with the Hamilton Rating Scale for Depression (HRSD), Zung Self-Rating Scale[1], (MMPI) Depression scale[2], Multiple Affective Scale of Depression, and (SCL-90)[3] is more than 0.60. In Rajabi et al.'s (2013) research, a reliability of 0.92 was obtained using Cronbach's alpha method. Its construct validity was also confirmed.

Coping Inventory for Stressful Situations (CISS): This test was prepared by Endler and Parker (1990) to measure the coping methods of adolescents and adults in stressful and critical situations, which includes 48 items; the questions have a 5-point Likert scale, and are scored from 1 to 5 assigned to the choices "not at all" to "extremely". It measures the three main

[1] The Zung Self-Rating Depression Scale (SDS), The Zung Self-Rating Anxiety Scale (SAS)

[2] The Minnesota Multiphasic Personality Inventory Depression scale

[3] The Symptom Checklist-90

areas of coping behaviors, which are problem-focused, emotion-focused, and avoidance coping strategies (Borna et al., 2015). Each category contains 16 questions, which are scattered throughout the questionnaire to control side effects (Qiasi et al., 2016). The overall internal consistency coefficient of this scale was reported to be 0.92. Besides, its reliability was 0.83 for the whole scale; for the subscales of problem-focused, emotion-focused, avoidance of disturbance and avoidance of inclination to society the reliability is measured as 0.86, 0.81, 0.68, and 0.69 respectively (Ghoreyshi Rad, 2010).

World Health Organization Quality of Life Questionnaire-Short Form (WHOQOL-BREF): The World Health Organization Quality of Life Questionnaire (WHOQOL Group, 1998). has 26 questions evaluating four domains of individuals' quality of life, including physical health, mental health, relationships with others, and living environment. Each item is scored in a range from (1 to 5) (not at all, slightly, moderately, very, extremely), or (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree) respectively. Cronbach's alpha coefficient of this test was reported to be between 0.73 and 0.89 for four subscales and the whole scale. Moreover, for the scale's reliability in Iran, Nasiri (2005) used three methods of test-retest with a three-week interval, split-half, and Cronbach's alpha, which were equal to 0.67, 0.87, and 0.84 respectively. Yousefi (2009) employed the correlation of the total score of each dimension with each and every constituent question of that dimension to determine the validity. The range of obtained correlation coefficients was from 0.45 to 0.83 and all coefficients were significant at the 0.01 level. Each item had the highest correlation with its related dimension.

Treatment sessions

Session	Description
First session	Welcoming, Stating the goals and explaining the process of treatment sessions.
Second session	Teaching the participants about the cognitive-behavioral model of depression.
Third session	Teaching them how to identify negative automatic thoughts and recognize them in depressing situations, using other cognitive behavioral therapy techniques, providing homework based on the methods implemented in the session
Fourth session	Identifying types of cognitive distortions and writing them on a special sheet. Homework: recording negative thoughts and cognitive distortions related to them.
Fifth session	Challenge with negative automatic thoughts, identifying and correcting mediating beliefs (assumptions, rules, dos). Homework: Completing the sheet expressing the advantages and disadvantages of automatic thoughts, Completing the coping card, and filling out the worksheet on negative automatic thoughts.

session	Description
Sixth session	First part: reviewing and emphasizing what was learned in the previous session, Second part: recalling fundamental beliefs and changing them, homework: identifying and recording dos and don'ts and finding their contradictions, filling out the daily activity worksheet, recording some new beliefs.
Seventh session	Explaining the negative role of being unemployed and worsened depression, helping the respondents to make independent decisions in doing the activity, homework: filling out the daily activity worksheet, summarizing everything they learned during the sessions and the problems they have with them.
Eighth session	Solving the respondents' problems, re-explaining concepts such as (challenging negative automatic thoughts, changing and correcting mediating and fundamental beliefs) Homework: practicing imagery rescripting about past and future events.
Ninth session	Summing up and reviewing previous sessions, reinforcing new main beliefs.
Tenth session	Reinforcing the new main beliefs and filling out the questionnaires again

It should be noted that the sessions were conducted by the researchers who are experts in cognitive and behavioral fields, and there was no drop-off in the number of respondents during the sessions.

3. Results

The mean and standard deviation of the age of the experimental group and the control group were 31.53, 8.42, and 30.95, 8.75 respectively. In terms of education, 13% were lower than a bachelor's degree, 60% of the experimental group had a bachelor's degree, and 27% had a master's degree. In the control group, 20% held a degree lower than BA, 53% had a bachelor's degree, 20% had a master's degree, and 7% had a doctorate.

Table 1 indicates the descriptive statistics of the research variables in the experimental and control groups in the pre-test and post-test stages.

Table 1
Descriptive indicators of research variables

		Pre-test		Post-test	
Variable	Groups	Mean	Std.deviation	Mean	Std.deviation
Social quality of life	Experiment	12.53	2.72	15.40	2.69
	Control	13.46	2.82	15.40	2.87
Psychological quality of life	Experiment	11.40	1.72	14.2000	1.85
	Control	18.80	4.81	21.06	4.80
Physical quality of life	Experiment	12.66	2.58	14.46	2.50
	Control	12.26	1.98	14.33	1.54
Environmental	Experiment	17.80	4.63	19.73	4.49
	Control	16.90	1.54	6.26	1.57
Problem-focused	Experiment	22.33	5.63	23.06	5.31
	Control	23.93	5.96	25.73	6.14
Emotion-focused	Experiment	28.13	7.30	28.60	6.78
	Control	29.53	7.40	32.26	7.25
Avoidance	Experiment	27.20	6.13	28.93	5.70
	Control	28.13	6.77	30.60	6.46

To evaluate the homoscedasticity, Levene's test was used. The results of the data obtained indicated that the significance level of all variables was greater than 0.05. Therefore, the assumption of homoscedasticity[4] in the post-test stage related to the research variables was confirmed.

The Shapiro-Wilk test was used to check the normality of the distribution of the variables (p>0.05). The results indicated that the significance level for all variables was higher than 0.05. Therefore, the assumption of normality of distribution was also confirmed.

The Box's M test was also run to investigate the variance-covariance matrix, and the results showed that the assumption of homogeneity of the variance-covariance matrix in the post-test stage related to the research variables was confirmed (p>0.05).

In Table 2, multivariate analysis of the covariance test used for statistical analysis is tabulated.

Table 2
Multivariate statistical indicators in multivariate analysis of covariance

Tests	Value	F	Hypothesis df	Error df	Sig
Pillai's Trace	0.670	4.350[a]	7.000	15.000	0.012
Wilks's Lambda	0.330	4.350[a]	7.000	15.000	0.012
Hotelling's Trace	2.030	4.350[a]	7.000	15.000	0.012
Roy's Largest Root	2.030	4.350[a]	7.000	15.000	0.012

As can be seen in Table 2, the significance level of all four tests (0.012) was less than 0.05, which highlighted the difference between at least one dependent variable (quality of life and coping strategies) in the experimental and the control group. In other words, cognitive behavioral therapy had a positive effect on at least one of the dependent variables.

In Table 3, the results of the analysis of covariance to investigate the effect of cognitive behavioral therapy on coping strategy and quality of life are presented.

Table 3
Results of multivariate analysis of covariance test the effect of cognitive behavioral therapy on coping strategies and quality of life

Variables	SS_b	Df	MS	F	Sig	Partial Eta squared
Problem-focused	1.081	1	1.081	0.745	0.835	0.002
Emotion-focused	9.911	1	9.911	8.510	0.004	0.334
Avoidance	0.064	1	0.064	0.201	0.048	0.267
Social quality of life	4.145	1	4.145	2.864	0.035	0.261
Psychological quality of life	0.972	1	0.972	1.325	0.051	0.101
Physical quality of life	0.543	1	0.543	0.942	0.031	0.099
Environmental quality of life	1.210	1	1.210	1.965	0.040	0.876

[4] Homogeneity of variances

The results of Table 3 reveal that there was a significant difference between the experimental and the control group in the post-test stage in emotion-focused and avoidance coping strategies (P<0.05). However, there was no significant difference between the two groups in the problem-focused coping strategy (P>0.05). Therefore, it could be said that cognitive-behavioral training had an effect on the emotion-focused and avoidance coping strategies of depressed women, but it had no effect on the problem-focused coping strategy. Moreover, the results in the quality-of-life section suggested a significant difference between the two groups in the variables of social, psychological, physical, and environmental quality of life (P<0.05). Consequently, it can be said that cognitive behavioral therapy affects the quality of the social, psychological, and physical life of depressed women. The Partial Eta squared also explains the effect of cognitive behavioral therapy on the variables of coping strategies and quality of life.

4. Discussion

The purpose of this study was to investigate the effect of cognitive behavioral therapy on coping strategies and depressed women's quality of life. The results showed that this treatment had a positive effect on emotion-focused and avoidance coping strategies and quality of life, which is in agreement with the findings of researchers (Shayan et al, 2018; Bakker, 2018; Kanter et al., 2015; Oie & McAlandin, 2014; Sugarman et al., 2010; Osilla et al., 2009).

Findings regarding the effect of cognitive behavioral therapy on depressed women's coping strategies indicated the following. Since the coping strategies reveals a person's behavioral and cognitive effort to solve the problem, the way the person challenges different life issues and manages the needs, skills such as constructive thinking, flexibility in behavior and recognition of capabilities are needed. As a result, the use of ineffective coping methods has been the origin of most psychological disorders, especially depression. Depressed people use more ineffective coping strategies (such as avoidance and emotion-focused strategies) than other people. Therefore, they get involved in a vicious cycle and lose the ability and motivation to face problems. Cognitive behavioral therapy, a set of cognitive and behavioral techniques, aims to improve individuals' ways of dealing with everyday issues. This type of therapy is based on the principle that maladaptive thoughts are the cause of maladaptive behaviors and emotions, helping people to learn a different way of thinking (Radu, 2012). Therefore, it can be effective in coping better with psychological pressure. In the discussion of coping strategies, this therapeutic approach emphasizes the use of problem-focused strategies, because emotion-focused strategies are based on accepting the problem instead of directly fighting to solve it; crying, getting upset, and resorting to unattainable wishes are done instead of planning to solve the problem, and as an alternative to facing the problem, in avoidance strategies the statement of the problem is ignored and eliminated. As a result, they do not do anything to solve the problem. Depressed people also lose their motivation to move forward due to the use of these strategies. Consequently, cognitive behavioral therapy seeks to help people to use less emotion-focused and avoidance

strategies and instead focus on problem-coping strategies.

It can be stated that in the explanation of finding the effect of cognitive behavioral therapy on depressed women's quality of life, the quality of life of depressed people was affected by their negative automatic thoughts, ineffective beliefs, and inappropriate coping strategies. For instance, a person who sees himself/herself to be unable to achieve his/her goals and feels that his/her goals are far from achievement will be completely disappointed; as a result of such a situation, he or she is unmotivated to approach daily tasks. This lack of motivation prevents an individual from the activity and makes him/her further away from reaching his/her goals. This creates a vicious cycle in his/her life, reducing the quality of life. Therefore, understanding of life, values, goals, standards, and interests become limited and they feel less secure, their tolerance for failures and frustrations decreases and they generally lose their motivation to change their living space. Through cognitive behavioral therapy, rational life training, recognize and challenge inefficient thoughts, reconstruct irrational beliefs, help to design a purposeful and flexible life path, identify how negative emotions are formed; confronting and replacing them, planning a daily activity schedule, helping to change ineffective coping strategies as well as replacing appropriate coping strategies, identifying supportive and helpful resources assists them to increase the level of quality of life (Beck, 2020).

The crucial limitation of this research was the impossibility of using the follow-up phase to measure the amount of persistence of the effects of the experimental phase, another limitation is the use of a questionnaire as a data collection method, because individuals may not have enough introspection and may not answer the questionnaire properly. It is suggested that other treatment methods such as metacognition, schema therapy, etc. be used in future research the results of which would be compared with the results of cognitive behavioral therapy.

5. Conclusion

Negative thoughts and beliefs are the main factors for an individual suffering from depression, this group of people continuously engage in strategies to deal with these beliefs that make them more immersed in depression and despair, this behavioral strategy will decrease their quality of life. Cognitive behavioral therapy, using different techniques, helps a person to fight his/her negative thoughts and beliefs and give up ineffective coping strategies, which ultimately increases his/her quality of life.

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Conflict of interest

The Authors declare that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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