





Comparing the effectiveness of group dialectical behavior therapy with group schema therapy on emotional dysregulation in women with coronary heart disease

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ABSTRACT

The present study aimed to compare the effectiveness of group dialectical behavior therapy with group schema therapy on emotional dysregulation in women with coronary heart disease. The present study method was quasi-experimental and the design used in this research was a pre-test-post-test design with control and follow-up groups. The statistical population of this research included married women aged 35 to 50 with coronary heart disease who visited Azadi Vascular Hospital in Tehran in 2022. Three groups were randomly grouped using the available sampling method: 15 subjects in the first group, 15 in the second group, and another 15 subjects in the control group. In order to carry out regular treatment sessions, an 8-session dialectical behavior therapy protocol and an 8-session schema therapy protocol were developed and implemented. Gratz and Roemer (2004) Difficulty in Emotional Regulation have been used to collect data. In order to statistically analyze the data, analysis of variance with repeated measurements and Bonferroni's post hoc test were used by SPSS software. The results of Bonferroni's post hoc test showed that there is a difference between the effectiveness of group dialectical behavior therapy and group schema therapy on emotional dysregulation in women with coronary heart disease from the pre-test stage, to the post-test and follow-up ($p < 0.05$); Compared to group schema therapy, dialectical behavioral therapy has a greater effect in reducing emotional dysregulation in women with coronary heart disease from the pre-test stage to the post-test and follow-up.

Keywords: Dialectical behavior therapy, schema therapy, emotional dysregulation, coronary heart disease.

1 Introduction

With social, cultural and industrial changes, the pattern of disease has changed and as a result, chronic diseases are considered to be the most important health and psychological problems in people (Jannat Alipoor & Fotokian, 2022). Therefore, chronic diseases are considered a major source of stress and impose many economic costs on society. These diseases have many types, one of the most important of which is cardiovascular diseases (Almutairi et al., 2023; Jinnouchi et al., 2020). Cardiovascular diseases are a group of diseases in which a problem occurs in the heart or vessels (arteries, capillaries, and veins) and affects the circulatory system, including heart disease, coronary heart disease, kidney disease, and arterial disease. (Khosroshahi, Mirzaian, & Hasanzadeh, 2019; Zhu et al., 2022).

Recent studies have highlighted the role of emotional and behavioral risk factors in the etiology and physiopathology of coronary heart disease (Ahmadi, Moghimian, & Seyed Hossieni Tezerjani, 2022; Hu et al., 2000). As one of the emotional risk factors, emotion dysregulation refers to limited and inflexible access to emotion regulation strategies, which is often characterized by unsuccessful attempts to avoid emotion. Intensification and neutralization of emotion have been identified as two forms of co-attribution of emotion (Homayooni, Keykhosrovani, & Pouladi Reishehri, 2023). In the state of heightened emotion, emotions are experienced as unwanted, annoying, distressing and problematic, like in people experiencing traumatic events. Neutralizing emotion can also include different experiences, isolation or emotional numbness. Emotional neutralization prevents emotional processing and is considered part of the avoidance coping style (Mehraban & Alivandivafa, 2022).

Dialectical behavior therapy and schema therapy are among the interventions that have been proposed in recent years. Studies regarding this type of intervention have been conducted on various types of mental disorders and common clinical problems that lead people to psychotherapy, and their effectiveness has been experimentally confirmed. Dialectical behavior therapy, one of the third-wave treatments, is a type of psychotherapy based on cognitive-behavioral approaches that focuses on the psychological aspects of treatment and is offered individually and in groups (Köck & Walter, 2018; Moeinoddini, Lotfi Kashani, & Shafieabadi, 2021). This therapeutic approach focuses on teaching the four skills of mindfulness, distress tolerance,

emotional regulation, and interpersonal effectiveness. Schema therapy is also an emerging approach from systematic modeling and hypothesis testing (Stratton et al., 2020). It is known for its special features, such as a regular structure and limited therapy sessions. Schema therapy emphasizes self-destructive patterns, feelings and behavior rooted in childhood and repeated throughout a person's life (Young, Klosko, & Weishaar, 2006). Therefore, corrective mechanisms in this category of therapeutic interventions can reduce emotional dysregulation and emotional dysregulation of cardiac patients and lead to improvement of lifestyle in patients. According to the above, this research aimed to compare the effectiveness of group dialectical behavior therapy with group schema therapy on emotional dysregulation in women with coronary heart disease.

2 Methods and Materials

2.1 Study Design and Participants

The present study method was quasi-experimental and the design used in this research was a pre-test-post-test design with control and follow-up groups. The statistical population of this research included married women aged 35 to 50 with coronary heart disease who visited Azadi Vascular Hospital in Tehran in 2022. Three groups were randomly grouped using the available sampling method: 15 subjects in the first group, 15 in the second group, and another 15 subjects in the control group.

2.2 Measures and Interventions

2.2.1 Emotional dysregulation

The corresponding scale was created by Gratz and Roemer in 2004 to measure emotional regulation problems and it consists of 36 items and 6 subscales. This scale is scored on a 5-point Likert scale from 1 (not at all) to 5 (almost always). Therefore, its score is in the range between 36 and 180. Getting a high score indicates more emotional regulation problems (Gratz & Roemer, 2004). In the present study, Cronbach's alpha was 0.81 for the whole questionnaire and 0.69 to 0.81 for its components.

2.2.2 DBT and Schema Therapy

In order to carry out regular treatment sessions, an 8-session dialectical behavior therapy protocol and an 8-session schema therapy protocol were developed and implemented.

2.3 Data Analysis

In order to statistically analyze the data, analysis of variance with repeated measurements and Bonferroni's post hoc test were used by SPSS software.

3 Findings

Analysis of variance with repeated measurements was used to check the research hypotheses and control the pre-test's effect. Using the analysis of variance test with repeated measurement requires compliance with assumptions such as 1. the normality of the distribution of scores; 2.

Homogeneity of variances, 3. Homogeneity of covariance matrix, and 4. Equality of covariance. For this purpose, the normality of data distribution was checked using the Shapiro-Wilk test. Also, the results of Levene's test for both groups showed that the condition of variances is equal ($p < 0.05$). Also, the results of the Mbox test showed that the significance of F is greater than 0.05 ($p > 0.05$); Therefore, the assumption of covariance matrix homogeneity in the studied groups has been fulfilled. In order to check the equality of covariance in three stages of measurement, Mauchly's test was used. The results showed that the significance of Mauchly's F-value is greater than 0.05 ($p > 0.05$); Therefore, the assumption of equality of covariance in the studied groups has been fulfilled.

Table 1

Analysis of variance with repeated measurements

Variable	Source	SS	Df	MS	F	p	Eta ²	Power
Emotional dysregulation	Within-group	355.267	1	355.267	6.539	0.016	0.189	0.695
	Group	1109.400	1	1109.400	20.418	0.001	0.422	0.992
	Error	1521.333	28	54.330				
	Between-groups	2992.900	1	2992.900	26.468	0.001	0.486	0.999

According to the [Table 1](#), according to the scores obtained from "schema therapy", the main effect of the time factor is significant. That is, the averages of emotional dysregulation scores from pre-test to post-test and follow-up show a significant difference ($p = 0.016$). The main effect of the group membership factor (schema therapy versus no intervention) was significant. That is the research groups as a whole show a significant difference in terms of emotional dysregulation scores ($p < 0.05$). The interaction of time and group membership (research conditions) was statistically significant. The trend of changes in emotional dysregulation scores from pre-test to post-test was significantly different among the groups ($p = 0.001$). This finding means a significant change in the average emotional dysregulation score of the participants between the experimental and control groups from the post-test to the follow-up. The statistical power equal to 0.999 indicates the appropriate sample size for such a conclusion, and the effect of group membership on changes in emotional dysregulation scores was 42% from pre-test to post-test and follow-up based on this tool.

Table 2

Bonferroni's post-hoc test

Variable	Groups	Mean diff.	SE	p
Emotional dysregulation	DBT ST	3.533	2.144	0.001
	Control	-15.067	2.144	0.001
	ST Control	-11.533	2.144	0.001

As seen in the [Table 2](#), there is a significant difference between the effect of group dialectical behavior therapy and group schema therapy on emotional dysregulation ($p = 0.001$); This means that there is a significant difference between the effect of group dialectical behavior therapy and group schema therapy compared to the control group in the variable of emotional dysregulation from the pre-test stage to the post-test and follow-up ($p = 0.001$). Group dialectical behavior therapy has a greater effect on the emotional dysregulation variable from pre-test to post-test and follow-up than group schema therapy.

4 Discussion and Conclusion

The present study aimed to compare the effectiveness of group dialectical behavior therapy with group schema therapy on emotional dysregulation in women with coronary heart disease.

Bonferroni's post hoc test showed a difference between the effectiveness of group dialectical behavior therapy and group schema therapy on emotional dysregulation in women with coronary heart disease from the pre-test stage to the post-test and follow-up.

Compared to group schema therapy, dialectical behavior therapy has a greater effect in reducing emotional dysregulation in women with coronary heart disease from the pre-test stage, to the post-text and follow-up. The obtained results were consistent with some previous findings. The superiority of the effectiveness of group dialectical behavior therapy over group therapy schema can be explained by relying on the basic principles of this approach. DBT emphasizes change as one of the basic aspects of reality. Change is the essence of experience, and humans and the environment endure constant change by resolving conflict through synthesis. This change or growth may not happen along a positive path. The existence of natural changes creates a context in therapy that is more compatible with the world outside of therapy and can help clients generalize what they have learned to non-therapeutic relationships. DBT discusses change, such that dialectical behavior therapy promotes change using interventions such as dependency management, confrontation, problem-solving, or skills training (Moeinoddini, Lotfi Kashani, & Shafieabadi, 2021).

5 Limitations and Suggestions

The limitation of this study is that this research is limited to the examined sample of women with cardiovascular disease, which number cannot be a good and sufficient representative of the society. Therefore, it is reasonable and possible to generalize the results only to the target population, and we should do this with caution for other levels. Another limitation of this research is the use of the available sampling method due to the limited possibilities and the difficulty of conducting extensive research with a completely random sampling method concerning the subject of this research, which causes unwanted bias in the results obtained.

It is suggested that those involved in the medical system should raise awareness about the possibility of using dialectical behavior therapy to improve the psychological

problems of women with coronary heart disease. This treatment method should also be used in the hospital. It is suggested that more attention be paid to scientific research and investigation in the field of feasibility and investigating the effect of dialectical behavior therapy on the variables discussed in this research, so that if it is confirmed again, the findings of this research can be used more. In order to reduce the levels of emotional dysregulation and improve the lifestyle of women with coronary heart disease, it is suggested to use dialectical behavior therapy, which in this research was experimentally confirmed as effective compared to schema therapy.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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