Original Research

The Effectiveness of Cognitive-Behavioral Therapy on the Flexibility and Performance of Married Couples in Isfahan City

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Abstract

Background: The purpose of the present study is to investigate the effectiveness of cognitive behavioral therapy on the flexibility and performance of married couples in Isfahan city.

Method: The research method was semi-experimental and its design was pre-test-post-test with a control group. The statistical population included all couples referred to family psychology clinics in Isfahan city in 1401, who were assigned to two groups (18 experimental subjects) and (18 control subjects) using available sampling method based on the entry and exit criteria. The tools used included the flexibility questionnaire of Dennis and Vanderwaal (2009), the Epstein, Baldwin and Bishab family performance questionnaire (1983) and cognitive-behavioral therapy training sessions. Data analysis was done using statistical methods of covariance analysis and SPSS 23 software.

Results: Cognitive-behavioral therapy has an effect on cognitive flexibility and family performance, and cognitive-behavioral therapy can be considered as one of the important and effective antecedents in treating couples' problems such as psychological flexibility and family performance.

Conclusion: The findings showed that cognitive behavioral therapy has an effect on flexibility and components (willingness to understand difficult situations, the ability to understand several alternative justifications and the ability to create several alternative solutions) and family performance and components (problem solving, Relationship, emotional intercourse) ($p < 0.05$) and has no significant effect on the components (roles, emotional companionship and behavior control) ($P < 0.05$).

Keywords: Cognitive-Behavioral Therapy, Flexibility, Family Performance.

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Introduction

The family should be a place where a person feels safe and has the right to express her interests, talents, emotions and natural needs without fear and to get help from other family members in solving her/his problems [1]. Family performance is one of the important indicators that guarantee the quality of life and mental health of the family and its members. Also, their negative relationship is considered as one of the most important factors that cause and maintain people's mental and emotional disorders. Research has shown that in families where Relationship between members and interactions within the family is based on closeness and intimacy and understanding between people, all members are relatively resistant and immune to the pressures of life. According to what was said, family performance refers to the family's ability to perform its duties, including providing for the emotional, psychological, and physiological (material) needs of its members. An effective family is a family that is able to meet the emotional, psychological and physiological needs of its members. A ineffective family is a family that is unable to meet the emotional, psychological and physiological needs of its members [2]. As a safe base, the family provides peace and flourishing of people's talents because the family and the people inside it depended on each other and were influenced by each other. Therefore, the growth of people within the family is influenced by the support and performance of the people within it from each other [3]. According to what was mentioned, the performance of the family can be seen in its systemic structure. In other words, family performance means the ability of the family and its members to be flexible with the changes in their lives, to resolve differences and conflicts, to unite and bond between family members, and to create successful steps in line with laws and regulations, and finally to comply with the limits. And the border between the members is based on the regulations governing it in order to protect and grow the family system [4]. Also, this organization and coordination is related to the person's satisfaction in her/his role and her performance in the family position [5]. According to Dickstein (2007)[3], in order to create a suitable performance in the family system, it can be mentioned to clarify the roles, duties and assignments of the members in relation to each other systematically. Likewise, Dickstein (2007)[3] believed that the existence of harmony between the family structure and its members provides optimal performance in the direction of flourishing [6]. In another view, DePaul (2006)[2] stated: the ideal family performance includes free Relationship and interactions, managing emotions and managing stress in an effective way, understanding and empathizing with each other, managing and leading each other, showing feelings and interest towards each other along with the dimension of responsibility. Finally, the performance of the family is an important and fundamental factor guaranteeing the mental health of people, which has been brought up to control and manage emotions and mental and psychological pressures caused by problems. In line with what was stated, the researches show that the existence of Relationship between family members along with honesty and intimacy leads to more interactions between family members and insulates the family and its members against the problems and pressures of life [7]. One of the effective factors in family performance is flexibility, which means the ability to properly adjust one's behavior according to a changing environment [8]. Flexibility refers to the ability to lead and how to manage changes and tensions, the relationship of roles and rules of interactions in the family, and it means how families maintain their stability while changing. In general, in this dimension, the emphasis is on stability or change. Cognitive flexibility enables a person to be efficient and break away from previous dysfunctional pathways, reconfigure and implement a new set of responses in their life path [9]. In another view, cognitive flexibility develops people's capacity to move in new directions and a

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realistic thinking style, and is the foundation for psychological health and effective coping with stressful situations [9]. However, flexibility is not a general thing or a fixed feature in people and it varies according to psychological pressure, context and similar factors. People may show flexibility against some stressful stimuli and be inflexible in other professional or social situations [10]. Also, reports indicate that cognitive flexibility has a significant relationship with psychological health and well-being such as depression and anxiety caused by everyday problems [11]. To improve the performance of the family, there are various methods and solutions that can affect the relationship between them, which can be mentioned by experts and counselors of couple therapy, such as the new approach, cognitive-behavioral couple therapy. Therefore, cognitive behavioral therapy intervention is a suitable treatment model that is used in various situations due to its educational nature. Cognitive-behavioral therapy includes parts and parts of life, by identifying and evaluating it, it is possible to evaluate the different levels of damaged thoughts and beliefs of a person, and with proper planning and training, false beliefs can be replaced with correct beliefs. In another view, this treatment approach is organized, has the underlying goals of identifying psychological damage caused by problems, and relies on appropriate strategies to deal with the patient's problems in an active and targeted manner [11]. The existence of healthy and correct relationships is based on healthy and stable relationships in the Relationship of the family and its members with each other, and this requires a deep and realistic look into the family and the relationships of couples with each other, the result of which is a healthier family life [11]. Therefore, since the family is the most important institution of a healthy society, it is important to pay attention to all affairs and interpersonal relationships in it, and it should be protected from existing harm. Based on this, attention to this social and family institution has been of high value and it is hoped that the results of this research can solve some of the existing problems among couples in Isfahan city. Also, the results of the present research can be considered from the practical aspect and also be used more and more by psychologists in the field of family to improve and improve the level of marital satisfaction. Another necessity of the research is to pay attention to the effectiveness of the existing treatment on each of the variables and to present practical and applicable suggestions to improve the effectiveness of this treatment method in the life of couples. In another view, the results obtained by the researcher can be a basis for raising the awareness of couples and relevant officials in welfare and psychological centers regarding the psychological condition of couples in Isfahan city, and finally, necessary and sufficient measures should be taken to improve the above conditions. Finally, the last necessity of this research provides motivation to achieve higher goals in the direction of the effectiveness of this therapeutic approach in the family field, the result of which is the identification of more and better application of the cognitive behavioral couple therapy approach as a new educational approach in matters related to couples. Hamid, Sayyad and Firozi (2021)[13] conducted a research on the effectiveness of cognitive-behavioral therapy on the performance of married couples' families, adaptation and academic performance of male students among 40 people in two groups. And the findings and results showed that family therapy based on cognitive-behavioral model improves and increases the level of family performance, adaptation of male high school students. Taqvai, Fattahi Bayat, Davoudi and Pirani (2020)[14] in a research entitled the effectiveness of cognitive-behavioral family therapy based on the Islamic approach on marital intimacy and interpersonal forgiveness of women referring to counseling centers among two groups of 15 people and the results showed that: There is a significant difference between marital intimacy and interpersonal forgiveness between the two experimental and control groups. Finally, family

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cognitive-behavioral therapy increases interpersonal intimacy and forgiveness. Heydari, Asgari, Heydari, Pasha and Makvandi (2017)[15] in a research titled the effectiveness of cognitive behavioral therapy on psychological flexibility and rumination of patients with non-cardiac chest pain among 40 patients and the results showed that cognitive behavioral therapy has a significant effect on cognitive flexibility.Deh Nabi and Radspahr (2017)[16] conducted a study on the effectiveness of cognitive-behavioral therapy group on body image concerns and improving cognitive flexibility in women with systemic lupus erythematosus among 24 women and the results showed that cognitive behavioral therapy increases cognitive flexibility in women with lupus.Pourqnnad, Mohaddisi and Asayesh (2016)[17] conducted a study on the effectiveness of cognitive-behavioral family counseling with an emphasis on the Acceptance and Commitment Theory of ACT on the flexibility and quality of life of members of a divorced family among 30 couples in two experimental and control groups and the results showed that cognitive-behavioral family therapy has a significant effect on the flexibility of couples. Åkerblom, Perrin (2021)[18] conducted a study titled predictors and mediators of outcome in cognitive behavioral therapy for chronic pain: psychological flexibility aids among 20 people, and the results showed that cognitive behavioral therapy has an effect on flexibility. Valizadeh and Makvandi (2020)[15] conducted a study on the effectiveness of cognitive behavioral therapy (CBT) on the cognitive flexibility of prisoners among 40 people, and the results showed that cognitive behavioral therapy has a positive and significant effect on cognitive flexibility. ICON , Hayes (2019)[19] conducted a research entitled Processes of change in cognitive behavioral therapy for treatment-resistant depression: psychological flexibility, rumination, avoidance and emotional processing among 100 people, and the results showed that cognitive behavioral therapy has an effect on flexibility. Oishi, Takizawa (2018)[20] in a research titled Web-based training program using cognitive behavioral therapy to increase cognitive flexibility and reduce psychological distress among school teachers: a randomized controlled trial conducted an experiment among 30 people and the results showed that the treatment Cognitive behavior increases cognitive flexibility. According to the review of theoretical foundations, it can be concluded that cognitive behavioral therapy with the necessary training can help to improve the mental state of people and increase the level of satisfaction with a person's life through strengthening Relationship skills and increasing positive thinking [11]. Also, according to the fact that there is a close relationship between a healthy family and society, it can be said that in addition to physical health, a healthy family should always have a healthy mental health for the growth of family performance and correct relationships. In the end, the implementation of such scientific-research projects seems to be necessary and essential for the preservation and durability of the family structure. On the other hand, due to the research gap in the existing knowledge, although there has been some research investigating the effects of cognitive behavioral therapy, no research has been found in Iran or outside of Iran that has comprehensively investigated the effectiveness of cognitive behavioral therapy on the flexibility and functioning of the family. Therefore, more detailed studies are necessary to understand the issue, therefore, the present study will be conducted with the aim of the effectiveness of cognitive behavioral therapy on the flexibility and performance of the family in couples in Isfahan city. From this point of view and according to what was mentioned, the main purpose of this research is to determine the effectiveness of cognitive-behavioral therapy on flexibility, lovemaking styles and family performance of couples in Isfahan city. Based on the studies conducted, this research has assumptions;

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The main hypothesis: Cognitive-behavioral therapy is effective on the flexibility and performance of married couples in Isfahan city.

Sub-hypotheses

Cognitive-behavioral therapy is effective on flexibility (desire to understand difficult situations, ability to understand several alternative justifications, ability to create several alternative solutions) of Isfahan couples.

Cognitive-behavioral therapy is effective on family performance (problem solving, Relationship, roles, emotional companionship, emotional intercourse, behavior control and general performance) of Isfahan couples.

Methods

In this study, the method of collecting information was in the field. The statistical population included all couples in Isfahan city in 1401. In order to collect the sample, 36 subjects were selected from among the couples who referred to counseling centers in Isfahan, and then 18 subjects were randomly assigned to the experimental group and 18 subjects to the control group. Both groups were assessed in the pre-test stage by three questionnaires of flexibility, love styles and family performance. The experimental group received cognitive behavioral family therapy as a group, in eight sessions of 90 minutes and the first and eighth sessions of 120 minutes (3 sessions in person and 5 sessions online).

And at the end of the therapy sessions, by retesting both groups, the effect of cognitive behavioral family therapy on 3 research variables was investigated in couples. Due to research ethics, after completing the post-test assessment, those participants of the control group who wanted to receive cognitive-behavioral family therapy were invited to participate in the therapy course.

The data obtained from the research questionnaires were analyzed at two levels of descriptive and inferential statistics. At the descriptive level, frequency table and frequency percentage, frequency percentage chart and table of central tendency and dispersion indicators have been used to present the status of demographic variables and predictor variables and research criteria. At the inferential level, covariance analysis test was used. All the analyzes were done with SPSS software.

Results

Demographic findings

In this research, descriptive statistics of the demographic variables of the experimental group, 9 men in the age group of 30-50 years and 9 women in the age group of 50-30, a total of 18 people participated in the experimental group, who have diploma, post-graduate and bachelor's education, Bachelor's and Doctor's degrees, which are listed separately in Table No. 1.

Descriptive statistics of the demographic variables of the control group, 9 men in the age group of 30-50 years and 9 women in the age group of 50-30, a total of 18 people participated in the experimental group, who have diploma, associate degree and bachelor's, master's and doctorate education, they have been listed separately in table 2.

In the analysis of inferential statistics and in order to examine the research questions according to Tables 3 and 4, it can be seen that there is a difference between the average of the control group in the post-test and the average of the experimental group in the post-test for the variables of flexibility and family performance. It can also be seen in the experimental group that there is an increase in the mean in the post-test compared to the pre-test for the variables of flexibility and family function.

First hypothesis: cognitive-behavioral therapy is effective on the flexibility of couples in Isfahan city.

Analysis of covariance test was used to test this hypothesis. This exam has three prerequisites, which are:

1. Normality of data distribution
2. Equality of variance of groups
3. There is a significant relationship between pre-test and post-test scores

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Kolmogorov-Smirnov test was used to check the normality of research variables. The results of which are shown in the table below.

As can be seen in Table 5, the significance is greater than 0.05. Therefore, the precondition of data distribution for flexibility variable is established.

As can be seen in Table 6, the value of F is equal to 33.5, which is significant at the zero level, and since this value is less than the acceptable level of significance (0.05), the existing difference is significant. In other words, the results show that by removing the effect of pre-test flexibility scores as a covariate, the effect of cognitive-behavioral therapy on post-test flexibility scores is significant.

The second hypothesis: cognitive-behavioral therapy is effective on the family functioning of couples in Isfahan city.

Analysis of covariance test was used to test this hypothesis. This test has two prerequisites, which are:

1. Normality of data distribution
2. Equality of variance of groups
3. There is a significant relationship between pre-test and post-test scores

Kolmogorov-Smirnov test was used to check the normality of research variables. Whose results are shown in the table.

As can be seen in Table 7, the significance is greater than 0.05. Therefore, the precondition of data distribution for the family performance variable is established.

Sub-hypotheses related to flexibility

To test these hypotheses, multivariate analysis of covariance (MANCOVA) test was used. To perform this test, it is necessary to check its precondition that the variance of the groups is equal.

Kolmogorov-Smirnov test was used to check the normality of the components. The results of which are shown in the table below.

As can be seen in Table 9, the significance for all components is greater than 0.05. Therefore, the precondition of data distribution is established for all subscales of the flexibility variable.

Lyon's test was used to determine the equality of variances, the result of which is shown in the following table:

As can be seen in Table 10, for all three components, an acceptable level of significance greater than 0.05 has been obtained. As a result, the variance between the groups is equal and there is no significant difference between them.

Therefore, the precondition of multivariate analysis of covariance (MANCOVA) test for flexibility subscales is established and this test can be used.

As can be seen in Table 11, the significance level for all subscales of the flexibility variable, except for the component of the ability to understand several alternative justifications, is less than 0.05. The results show that the effect of cognitive-behavioral therapy on the subscales of the desire to understand difficult situations and the ability to understand several alternative explanations is significant, but it is not significant for the subscale of the ability to create several alternative solutions.

Sub-hypotheses related to family performance

Multivariate analysis of covariance (MANCOVA) test was used to test these hypotheses. To perform this test, it is necessary to check its precondition that the variance of the groups is equal.

Kolmogorov-Smirnov test was used to check the normality of the components. The results of which are shown in the table below.

As can be seen in Table 12, the significance for all components is greater than 0.05. Therefore, the precondition of data distribution is established for all the subscales of the family performance variable.

Lyon's test was used to determine the equality of variances, the result of which is shown in the following table:

As can be seen in Table 13, for all seven components of family performance, an acceptable level of significance greater than 0.05 has been obtained. As a result, the variance between the

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groups is equal and there is no significant difference between them.

Therefore, the precondition of the multivariate covariance analysis (MANCVA) test for the subscales of family performance is established and this test can be used.

As can be seen in Table 14, the significance level for the subscales of problem solving, Relationship, emotional intercourse and overall performance is less than 0.05, so the existing difference is significant. In other words, the results show that the effect of cognitive-behavioral therapy on the mentioned subscales is significant. But according to the table, it can be seen that the significance level for the subscales of roles, emotional companionship and behavior control is greater than 0.05. Therefore, the existing difference is not significant. In other words, the results show that the effect of cognitive-behavioral therapy on the subscales of roles, emotional companionship, and behavior control is not significant.

Discussion

The present study is to determine the effectiveness of cognitive-behavioral therapy on the flexibility and performance of married couples in Isfahan city. The performance of the family as a variable can be considered an important factor in the ability of the family to perform its duties. A functional family is a family that is able to meet the emotional, psychological and physiological needs of its members. On the other hand, a dysfunctional family is a family that is unable to meet the emotional, psychological and physiological needs of its members. Finally, the performance of the family is one of the important indicators that guarantee the quality of life and mental health of the family and its members. According to what has been said, the researcher tries to solve part of the existing sub-hypotheses in line with the existing knowledge gap by presenting the present research.

Discussion about the first hypothesis

Cognitive-behavioral therapy is effective on the flexibility of couples in Isfahan city.

The results of Table 6 showed that the value of F is equal to 33.5, which is significant at the zero level, and since this value is less than the acceptable level of significance (0.05), the existing difference is significant. In other words, the results show that by removing the effect of pre-test flexibility scores as a covariate, the effect of cognitive-behavioral therapy on post-test flexibility scores is significant.

In line with the comparison of the above results with the findings of other researchers, the present results are aligned with the findings of Icon et al (2019)[19] as the effectiveness of cognitive-behavioral family therapy based on the Islamic approach on marital intimacy and interpersonal forgiveness of women, Heydari, Asgari, Heydari, Pasha, Makvandi (2018)[15] with the title of effectiveness of cognitive behavioral therapy on psychological flexibility and rumination, Deh Nabi, Radspahr (2016)[21] with the title of effectiveness of cognitive behavioral therapy group on body image concerns and improvement of flexibility Women's cognition, Pourqannad, Mohdathi, Asayesh (2015)[11] with the title of the effectiveness of cognitive-behavioral family counseling with emphasis on the acceptance and commitment theory of ACT on the flexibility and quality of life of members of a divorced family, Dajani (2015)[9] with the topic of the effectiveness of cognitive-behavioral therapy on flexibility Fazeli, Ehtshamzadeh, Hashemi Sheikh Shabani (2014) [1] with the topic of the effectiveness of cognitive behavioral therapy on cognitive flexibility, Akrobum and Perin (2021)[14] with the title of predictors and mediators of the outcome in cognitive behavioral therapy for chronic pain: mental flexibility aids, but Zadeh and Makundi (2020) as the effectiveness of cognitive behavioral therapy (CBT) on cognitive flexibility، Ikon and Hayes (2019)[19] as processes of change in cognitive behavioral therapy for treatment-resistant depression: psychological flexibility, rumination, avoidance and emotional processing, Oshi and Takizawa (2018) with The title of the web-based

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educational program using cognitive behavioral therapy to increase cognitive flexibility and reduce psychological distress, Badamian and Ebrahimi Moghadam (2017)[13] with the title of the effectiveness of cognitive behavioral therapy on flexibility and aggression and Nazarzadeh and Fayezi (2015) with the topic of the effectiveness of cognitive therapy - Behavior on cognitive flexibility.

In explaining this finding, it should be noted that cognitive-behavioral therapy allows people to understand the basic mechanisms of learning behavior and the necessary skills to manage their behaviors. As a result, people can turn their irrational beliefs about their lifestyle into objective thoughts. Also, this intervention affects the level of perception of different options and solutions and the level of controllability of the situation [19]. Correcting incorrect interpretations, strengthening the ability to solve problems, creating a sense of control over life, strengthening constructive coping skills, and finally improving mental health are among the goals of cognitive behavioral intervention (Velizadeh and Makvandi, 2020). Finally, in this intervention, cognitive distortions are identified and their link with the underlying schemas is drawn. Individuals learn how to record their thoughts and feelings, and by showing couples core beliefs, their relationship with current issues becomes clear. Then, couples help themselves by gradually eliminating and replacing ineffective beliefs with effective ones (Oshii and Takizawa, 2018). Therefore, from this point of view, it can be expected that this intervention will have a positive effect on the perception of different options and solutions and the degree of controllability of the situation.

Also, in another explanation, cognitive behavioral therapy using muscle relaxation technique helps people to identify the source of anxiety and stress and reduce it. This process is important because the reduction of anxiety can lead to the improvement of cognitive and emotional processing and thus improve psychological flexibility. Because during the cognitive-behavioral therapy sessions, negative emotions, inefficient cognitive processes and stressors are identified and instead of being avoided, they are faced with them, and beyond that, cognitive techniques and problem solving also help to increase self-awareness and reduce avoidance in couples, the result of which is the increase of flexibility in couples.

Discussion about the second hypothesis

Cognitive-behavioral therapy is effective on the family performance of couples in Isfahan city.

The results of Table 8 showed that the value of F is equal to 64, which is at the level of 0.072. Since this value is higher than the acceptable level of significance (0.05), the existing difference is not significant. In other words, the results show that by removing the effect of pre-test family function scores as a covariate, the effect of cognitive-behavioral therapy on post-test family function scores is not significant.

In line with the comparison of the above results with the findings of other researchers, the present results are in line with the findings of Hamid, Sayad, Firozi (2021)[13] on the effectiveness of cognitive-behavioral family therapy on the functioning of the couple's family, the adaptation and academic performance of students, Shaker Doleq, Narimani, Afrooz, Hassani and Baghdarsarians (2014)[1] on the topic of the effectiveness of cognitive-behavioral couple therapy on improving the family functioning of couples seeking divorce, Nagata et al (2018)[3] on the topic of the effectiveness of family therapy with a religion-based cognitive-behavioral model on family functioning, adaptation and academic performance of students , Soudani, Mehrabizadeh Artman, Farah Bakhsh (2009)[4] is aligned with the issue of the effectiveness of cognitive-behavioral training on improving family functioning of incompatible couples.

In explaining this finding, it should be emphasized that the performance of the family is an important and fundamental factor guaranteeing the mental health of people, which causes the control and

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management of emotions and mental and psychological pressures caused by problems. In line with what was said, research shows that the existence of relation between family members along with honesty and intimacy causes more interactions between family members and makes the family and its members immune to the problems and pressures of life [4]. Therefore, in explaining the results obtained about the overall performance of the family, the theory is proposed that by teaching negotiation strategies, compromise and problem solving, positive behaviors and thoughts, negative communication patterns in a couple that often verbally and behaviorally dominate the relationship is, it changes and practically this feeling is created in them that they receive as much from the relationship as they create for it [4]. Obviously, in such a situation, providing rewards and behavioral reinforcements is considered an effective factor in stabilizing the behavior. In this situation, the behavior of each couple is considered a reinforcement or a reward for the other party[22]. Therefore, in general, it can be concluded that the cognitive foundations of cognitive-behavioral couple therapy emphasize mutual recognition of couples and consider recognition as an integral part of the couple's change process. Finally, the philosophical basis of this view is that behavior change alone is not enough to correct inefficient interactions, but the way of thinking of people in incompatible relationships and behavioral patterns should be emphasized. In another view, in the cognitive-behavioral approach to the investigation, the effect of misinterpretation and misunderstandings in married life is emphasized, and the therapists do not consider the cause of mental problems to be the external factor of the couple, rather, they consider the agent to be the type of attitude, thinking and cognition with which a person processes external information and reacts to external events. Every knowledge is just a thought [2]. Therefore, when working with couples, the therapist tries to correct their unrealistic expectations about what should be gained from this relationship and teaches them how to reduce destructive interactions. Distortion in the evaluation of experiences, which is the result of negative schemas, is also studied. By identifying and expressing the schemas of each couple about themselves, their spouses, and their marital relationships, the therapist helps the couple to accept responsibility for their discomfort, and ultimately their performance is strengthened.

Limitations:

1. The results of the research are only relevant to the culture of Isfahan couples and cannot be generalized to other cities and cultures.
2. Also, among the other limitations of the research, it can be mentioned that the sample was dropped during the implementation of the research.
3. Failure to obtain a research sample
4. Purposive sampling is also another limitation of the research that random sampling was not possible.

Conclusion

Overall, the findings of this research showed that cognitive-behavioral therapy has an effect on cognitive flexibility and family functioning, and cognitive-behavioral therapy can be considered as one of the important and effective antecedents in the treatment of couples' problems, such as psychological flexibility and family performance. Also, according to the above findings, the topic of cognitive-behavioral therapy can be an effective treatment, especially considering the results obtained by researchers and researchers in the field of family and couples.

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All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

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Tables

Table 1: Descriptive statistics of the demographic variables of the experimental group

Sex	Age				Level of Education		
Male (9 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	3 people	3 people	2 people	1 people	3 people	3 people	3 people
Female (9 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	2 people	4 people	2 people	1 people	3 people	5 people	1 people
Total (18 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	5 people	7 people	4 people	2 people	6 people	8 people	4 people

Table 2: Descriptive statistics of the demographic variables of the control group

Sex	Age				Level of Education		
Male (9 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	2 people	4 people	2 people	1 people	4 people	4 people	1 people
Female (9 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	2 people	3 people	3 people	1 people	3 people	3 people	3 people
Total (18 people)	Less than 30 years	Between 30 and 40 years	Between 40 and 50 years	More than 50 years	third grade middle school and diploma	Associate degree and bachelor's degree	Masters and Ph.D
	5 people	7 people	5 people	2 people	7 people	7 people	4 people

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Table 3: Descriptive findings of experimental group variables

Variables	pre-test		post-test	
	Average	standard deviation	Average	standard deviation
flexibility	73	11.0	81	11.8
Family performance	126	24.3	138.4	28.3

Table 4: Descriptive findings of control group variables

Variables	pre-test		post-test	
	Average	standard deviation	Average	standard deviation
flexibility	76	12.1	75	11.4
Family performance	129	26.1	10	25.2

Table 5: Kolmogorov-Smirnov test to check the normality of flexibility variable

Variable	Z - Kolmogorov-Smirnov	significance
Flexibility	0 . 645	0.653

Table 6: Summary of covariance analysis for the flexibility component with control of pre-test flexibility variable

Mean square	Degrees of freedom	**F**	Significance	Impact factor
6983	1	33.5	0.0000	0.72

Table 7: Kolmogorov-Smirnov test to check the normality of the family performance variable

Variable	Z- Kolmogorov-Smirnov	significance
Family performance	0.684	0.783

Table 8: Summary of covariance analysis for the family function component with control of the pre-test family function variable

Mean square	Degrees of freedom	F	significance	Impact factor
11302	1	6.4	0.072	0.28

Table 9: Kolmogorov-Smirnov test to check the normality of flexibility variable subscales

Variable	Z- Kolmogorov-Smirnov	significance
Willingness to understand difficult situations	0.672	0 .626
Ability to understand multiple alternative justifications	0.782	0.894

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Ability to create multiple alternative solutions	0.704	0.769

Table 10: Equality of variances test for flexibility variable subscales

Flexibility subscales	F	First degree of freedom	Second degree of freedom	significance
Willingness to understand difficult situations	0.608	1	34	0.443
Ability to understand multiple alternative justifications	0.832	1	34	0.066
Ability to create multiple alternative solutions	0.849	1	34	0.369

Table 11: Multivariate covariance analysis (MANCOVA) for flexibility variable subscales

Flexibility subscales	mean square	Degrees of freedom	F	significance
Willingness to understand difficult situations	196	1	3.21	0.031
Ability to understand multiple alternative justifications	265	1	8.14	0.022
Ability to create multiple alternative solutions	205	1	4.70	0.079

Table 12: Kolmogorov-Smirnov test for subscales of family performance variable

Variable	Z- Kolmogorov-Smirnov	significance
Solve the problem	0.744	0 . 641
Relationship	0.738	0 . 607
Roles	0.713	0 . 932
emotional companionship	0.694	0. 339
emotional intercourse	0.402	0 . 411
Behavioral control	0.294	0 . 399
Overall performance	0. 914	0 . 618

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Table 13: Equality of variances test for subscales of family performance variable

Family performance subscales	**F**	First degree of freedom	Second degree of freedom	significance
Solve the problem	1.217	1	34	0.271
Relationship	1.828	1	34	0.068
Roles	0.614	1	34	0.452
emotional companionship	1.178	1	34	0.279
emotional intercourse	1.820	1	34	0.167
Behavioral control	0.616	1	34	0.445
Overall performance	0.725	1	34	0.450

Table 14: Multivariate analysis of covariance (MNCVA) for the subscales of the family performance variable

Family performance subscales	mean square	Degrees of freedom	F	significance
Solve the problem	214	1	4.63	0.038
Relationship	80	1	2.59	0.042
Roles	227	1	10.50	0.093
emotional companionship	198	1	4.63	0.090
emotional intercourse	162	1	2.59	0.029
Behavioral control	253	1	10.50	0.089
Overall performance	245	1	10.50	0.036

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