

Comparison of the Effects of Religious Cognitive Behavioral Therapy (RCBT), Cognitive Behavioral Therapy (CBT), and Sertraline on Depression in Patients after Coronary Artery Bypass Graft Surgery: a Randomized Controlled Trial

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Abstract

Background: We compared the effectiveness of Religious Cognitive Behavioral Therapy (RCBT), Cognitive Behavioral Therapy (CBT), and Sertraline on Depression in Patients after Coronary Artery Bypass Graft Surgery.

Method: This was a randomized controlled trial with parallel groups. A total of 160 participants were randomly assigned to 4 groups of 40 including 3 intervention groups (RCBT, CBT, and sertraline) and 1 control group (usual care). Depression was assessed before and after interventions, and at 6 month follow-up.

Results: The three intervention groups had significant differences in decreased depression compared to the control group from pretest to posttest and from pretest to follow-up ($P < 0.0001$). There was no significant difference between the three intervention groups (RCBT, CBT and sertraline) on decreased depression.

Conclusions: Our results showed that RCBT, CBT and sertraline had a similar effect in reducing the symptoms of depression in the study population after the intervention and follow-up. However, these interventions were more effective than in the control group. Further trials in this area are necessary.

Key words: Religious Cognitive Behavioral Therapy, Cognitive Behavioral Therapy, Sertraline, Depression, CABG

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Introduction

Depression is one of the important factors for the development of coronary artery disease (1). In different studies bidirectional interactions between depression and ischemic heart disease have been documented (2). In this regard studies have shown that patients with heart disease have a greater chance of developing depression (3) and statistics suggest that 30-40% of patients undergoing cardiac surgery (CABG) suffer from depression (4). High levels of depression may expose patients to an increased risk of recurrence of cardiac events (5) and rehospitalization (6). In the psychiatric approach, various pharmacological and non-pharmacological therapies are used to treat psychological problems. In this regard, the use of Selective serotonin reuptake inhibitors (SSRIs) drugs such as Sertraline in the treatment of depression as an effective drug (7-8), with a good and safe tolerance level for cardiac patients was reported. (9). On the other hand, some studies have suggested psychological treatments, especially CBT, as reasonable alternatives to pharmacological therapy (10) and the effectiveness of this type of intervention was reported to reduce the symptoms of anxiety and depression in cardiac patients (11-13) and post-operative CABG surgery patients (14-15). However, lack of adequate evidence, limitation of previous studies, and non-generalization of outcomes to support the use of CBT, led to the need for a large randomized controlled trial (16) with long-term follow-up in this group of patients (17). In addition to using other psychological treatments, the efficiency of religion has also recently been considered as a cure for diseases and other stressors, and religion is used to strengthen positive emotions and help neutralize negative emotions. (18). Although studies have confirmed the effectiveness of non-pharmacological treatments with religious approach and cognitive-behavioral therapies along with religious intervention in reducing depression (24-19), this relationship and effectiveness were not reported in some other studies (25 -30) and empirical studies are also limited in this regard (31).

On the other hand, studies to compare the efficacy of RCBT and CBT have presented different results. As in some studies reported, CCBT and RCBT had a similar effect (20, 22, 32) and in some, RCBT was more effective than CCBT (33). In addition, a study also found that RCBT was not more effective than SCBT, but greater effectiveness of RCBT in reducing depression symptoms was shown in individuals who were more religious, where more extensive studies are needed (22). Also, in a review study, evidence reveals that both psychotherapeutic treatment and pharmacologic treatment are safe and effective in reducing depression severity in patients with cardiovascular disease (34). Regarding limited studies with long-term follow-up and contradiction in the effectiveness of interventions, a study was conducted to compare the effects of RCBT, CBT and sertraline on depression in patients post CABG surgery.

Materials and Methods

The study protocol has been previously published in detail (35). The study protocol was approved by the Behavioral Research Center of Mazandaran University of Medical Sciences (ID: 2013-12-04) and the Ethics Committee of the Research Deputy of Mazandaran University of Medical Sciences (ID: 92192). Moreover, all principles of the 2008 Declaration of Helsinki were observed during the design of the study. A randomized controlled trial design with parallel groups were adopted to compare the effects of RCBT, CBT, sertraline, and usual care on post-CABG depression in patients admitted to Tuba Clinic, Sari, northern Iran.

The inclusion criteria were participants with age ≤ 65 years, having undergone first-time CABG surgery (four weeks after surgery), and having received follow-up treatment in Tuba Clinic, fluency in Farsi, a junior high school degree or higher level of education, willingness to participate and providing written consent, meeting the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria for depression(36), scoring ≥ 8 for depression on the Persian version of the Hospital Anxiety and Depression Scale (HADS)(37), and being religious (based on self-reports)(20).

The exclusion criteria were a history of psychiatric disorders like schizophrenia, bipolar disorder, and serious suicidal thoughts confirmed by clinical interviews, performed by a psychiatrist based on the DSM-IV, scoring ≥ 14 HADS, a history of any physical condition preventing the patients from participating in treatment sessions, a history of attending RCBT, CBT, or any other kind of psychotherapy programs, and having used sertraline or other anti-depressant during the two-week period prior to the study. A researcher evaluated the records of participants who had undergone CABG in Tuba Clinic and selected them on the basis of the inclusion and exclusion criteria discussed. The selected participants were called and briefed on the project. Those who declared their willingness to participate during the phone call (oral consent) were requested to visit the clinic for baseline evaluations. If the participants agreed to participate, they were asked to sign an informed consent form in the clinic. During their visit, the subjects were asked if they regard themselves as religious persons (Yes/No). Individuals who provided positive answers were asked to complete the Persian version of Golriz and Baraheni's Religious Attitude Questionnaire (38). The participants were included only if they scored over 25 in the above mentioned questionnaire. Then the presence of depression symptoms was determined by the HADS scale. Individuals with HADS scores ≥ 8 were referred to a psychiatrist for a clinical interview based on the DSM-IV. Subjects with a number of mental disorders were excluded and referred to a psychiatrist to receive relevant treatment. The participants were evaluated at baseline, immediately after the interventions, and six months after the interventions in the same clinic.

Sample size and sampling

Based on previous studies(39) and considering the $\alpha = 5\%$, test power of 80%, and probable 20% sample loss, 160 people were selected (40 in each group).

Randomization

Participants were randomized using block randomization, stratified by age (<57/>57) and gender (male/female), were adopted to assign the participants to one of the three intervention groups (RCBT + usual care, CBT + usual care, sertraline + usual care), and one control group (usual care). The participants were informed about their treatment groups after randomization. Owing to the nature of the study, blinding was not possible. However, the statistician was not informed about patient groups.

Measures

The following measures were used to collect information: The demographic and clinical information form was used. The religious attitude scale introduced by Golriz and Baraheni was used. The validity of this scale was 80%, as has been determined using the correlation coefficient of Allport–Vernon–Lindzey. Also, the reliability of the scale was 0.85(38).

The Hospital Anxiety Depression Scale (HADS) was developed by Zigmond and Snaith (1983) (40); Montazeri et al. (2003) confirmed the validity and reliability of this scale in Iran. The internal consistency of the scale was obtained with Cronbach's alpha for depression at 0.86(37).

The clinical interview (DSM-IV) was used for clinical diagnoses previously described in the protocol of this study (35).

Intervention: After the random allocation of the participants, RCBT and CBT groups attended 12 one-hour weekly sessions of therapy (41). The pharmacological intervention group took 25–200 mg sertraline every evening for three months. The dose of the medicine was determined, as based on the physician's prescription. Sertraline was provided in the form of 50 and 100 mg pills by Abidi Pharmaceutical Co., Iran (licensed by Iran's Ministry of Health). The participants in the control group did not undergo any intervention and only received normal care, including physical care, medication, incision care (chest and leg), dietary recommendations, activities, and periodic visits after CABG surgery. All participants received biweekly follow-up phone calls from the research assistant. Patients with symptoms that worsened were excluded and referred to a psychiatrist for further treatment (based on ethical considerations). The RCBT and CBT intervention sessions has also been earlier discussed in detail (35). Post-tests were assessed after intervention and six months later (after follow up).

Statistical analysis: Statistical analysis was performed using SPSS version 20. Chi-square and Fischer's exact tests were used to compare the demographic and clinical variables with the qualitative characteristics. The Kolmogrov-Smirnov test was used to evaluate the normal

distribution of quantitative variables. One-way ANOVA was used in cases where data distribution was normal and the Kruskal-Wallis (non-parametric) test was used in cases where data distribution was not normal. In both cases, if differences were observed between groups, LSD was used for parametric data and Mann-Whitney's U test was used for non-parametric data. In order to analyze the depression score at different times, the GEE (Generalized Estimating Equation) test was used in four groups. Spearman correlations were used to examine the relationship between variables with regard to the nature of abnormalities of variables.

Ethics: Before the initiation of the study, participants were explained about the study objectives, the need for taking blood samples, and their right to withdraw at any stage. They were also ensured about the safety of the interventions and confidentiality of data. The required permissions were obtained from The Ethics Committee of Research Deputy of Mazandaran University of Medical Sciences and the relevant authorities at Tuba Clinic.

Results

The flow of participants from the beginning to the end of the trial is summarized in Figure 1.

Also, demographic characteristics of participants are given in Table 1 (page 36). There were no significant differences between the groups in terms of demographic features, clinical characteristic and religious attitudes at baseline of the study.

The average HADS score for the experimental and control groups were respectively RCBT9.08 (SD = 2.86), CBT8.30 (SD = 2.96), Sertraline 9.40 (SD = 2.70) and the control group 8.80 (SD = 3.04) points. There was no statistically significant difference between the four groups at baseline ($P = 0.279$) (Table 1).

The mean of depression scores in the RCBT group was 9.08 before intervention, which decreased by 2.53 points to 6.55, and in the follow-up phase, it decreased to 0.35 after intervention. The follow-up score difference was 0.66 from before intervention. The CBT group had a mean depression score of 8.30 before intervention, which reduced to 6.90 after intervention, and in the follow-up phase, there was a decrease of 0.08, and the mean reached 6.82. The reduction from before intervention to follow-up was 1.84. The results in the sertraline group showed that before intervention, the mean depression score was 9/40, and with a decrease of 0.97 it reached a score of 8.43 after intervention and in the follow-up phase. The reduction was 0.93 compared to after intervention, and it decreased by 1.90 compared to before intervention. In the control group, before intervention, the mean score was 8.80, which increased by 1.55 after intervention and at the follow-up stage, there was an increase of 1.55 compared to before intervention, so that, after intervention there was an increase compared to before intervention (Figure 2).

Figure 1: Flow of participants through the Study

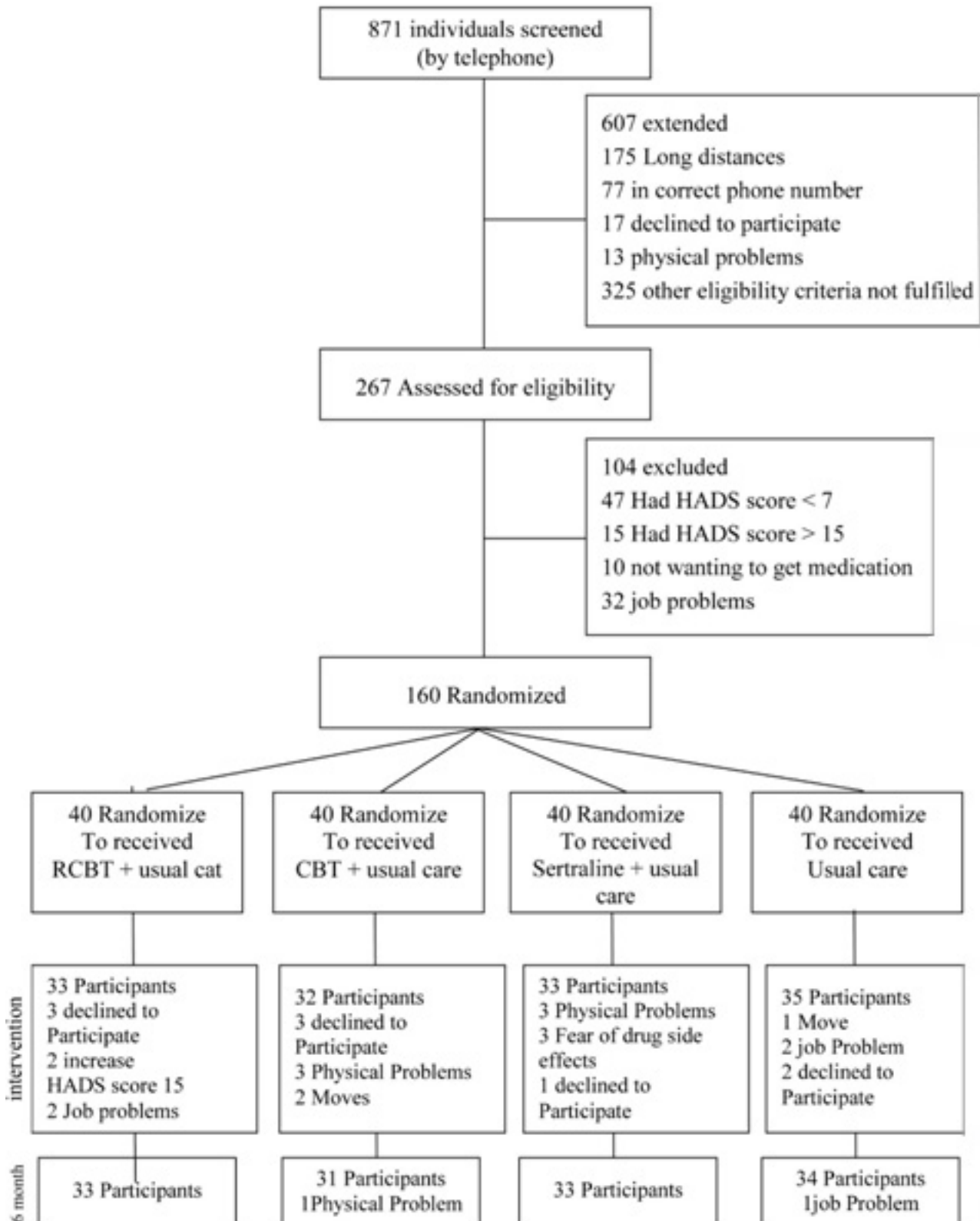


Table1: Demographic and baseline clinical data

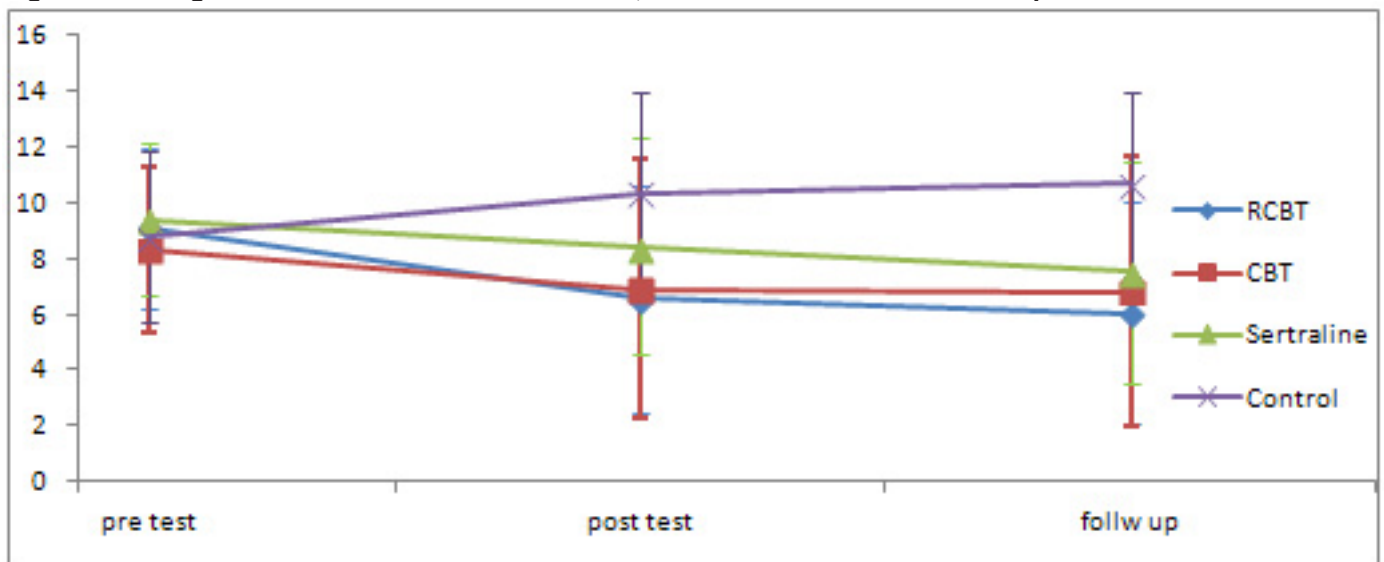
Variables	RCBT n=40	CBT n=40	Sertraline n=40	Control n=40	Total N=160	P-value	
Sex n (%)	Male	22(55.0)	25(62.5)	23(57.5)	21(52.5)	** .827	
	Female	18(45.0)	15(37.5)	17(42.5)	19(47.5)		
Job status n (%)	Employed	8(20.0)	10(25.0)	10(25.0)	11(27.5)	.648*	
	Retired	19(47.5)	16(40.0)	14(35.0)	11(27.5)		
	Housekeeper	13(32.5)	13(32.5)	14(35.0)	18(45.0)		
	Unemployed	0(0.0)	1(2.5)	2(5.0)	0(0.0)		
(%) Education n	< Diploma	32(80.0)	35(87.5)	39(97.5)	34(85.0)	.085*	
	> Diploma	8(20.0)	5(12.5)	1(2.5)	6(15.0)		
Age group n (%)	<57	15(37.5)	20(50.0)	20(50.0)	21(52.5)	.531**	
	> 57	25(62.5)	20(50.0)	20(50.0)	19 (47.5)		
Age	mean(std)	57.25(7.25)	56.20(6.63)	56.78(5.89)	57.48(5.16)	.684***	
Religious attitude	mean(std)	72.33(13.15)	74.08(11.68)	70.47(11.18)	71.03(10.73)	.105***	
Underlying disease n (%)	Yes	27(67.5)	30(75.0)	26(65.0)	30(75.0)	.674**	
	No	13(32.5)	10(25.0)	14(35.0)	10(25.0)		
Hypertension n (%)	Yes	22(55.0)	26(65.0)	25(62.5)	23(57.5)	.791**	
	No	18(45.0)	14(35.0)	15(37.5)	17(42.5)		
Diabetes n (%)	Yes	33(82.5)	26(65.0)	26(65.0)	25(62.5)	.189**	
	No	7(17.5)	14(35.0)	14(35.0)	15(37.5)		
Hypercholesterolemia n(%)	Yes	34(85.0)	37(92.5)	30(75.0)	29(72.5)	.069*	
	No	6(15.0)	3(7.5)	10(25.0)	11(27.5)		
Other n (%)	Yes	32(80.0)	36(90.0)	33(82.5)	34(85.0)	.703*	
	No	8(20.0)	4(10.0)	7(17.5)	6(15.0)		
Duration of heart disease (year) n(%)	1-5	30(75.0)	32(80.0)	33(82.5)	32(80.0)	.184*	
	5-10	5(12.5)	3(7.5)	4(10.0)	4(10.0)		
	10-15	1(2.5)	0(0.0)	2(5.0)	4(10.0)		
	<15	4(10.0)	5(12.5)	1(2.5)	0(0.0)		
NyHA class n (%)	Class1	18(45.0)	21(52.5)	16(40.0)	18(45.0)	.905*	
	Class2	21(52.5)	17(42.5)	23(57.5)	20(50.0)		
	Class3	1(2.5)	2(5.0)	1(2.5)	2(5.0)		
	Class4	0(0.0)	0(0.0)	0(0.0)	0(0.0)		
Number of vessels involved n (%)	one	4(10.0)	5(12.5)	3(7.5)	5(12.5)	.786*	
	two	6(15.0)	4(10.0)	6(15.0)	9(22.5)		
	three	30(75.0)	31(77.5)	31(77.5)	26(65.0)		
Percentage of veins involved n (%)	<70	3(7.5)	4(10.0)	11(27.5)	3(7.5)	.119**	
	70-80	13(32.5)	11(27.5)	10(25.0)	10(25.0)		
	80-90	15(37.5)	9 (22.5)	10(25.0)	14(35.0)		
	90-100	9(22.5)	16(40.0)	9(22.5)	13 (32.5)		
Depression (HADS)	mean(std)	9.08(2.86)	8.30(2.96)	9.40(2.70)	8.80(3.04)	8.89(2.89)	.279

* Fisher's Exact

** Chi square

***Kruskal-Wallis (k-w)

Figure 2: Changes in HADS scores at the baseline, after intervention and follow-up



The results also showed that both the effect of the group and the effect of time produced a significant difference during the study on the level of depression in patients ($P < 0.0001$) (Table 2).

Table 2: GEE analysis of outcome variables

Variables	B	SE	95% Wald CI	Wald x2	df	P
Group(RCBT) ^a	-.298	.0809	-.457 to -.140	13.573	1	<.0001
Group(CBT) ^a	-.283	.0887	-.457 to -.109	10.199	1	.002
Group(Sertraline) ^a	-.163	.0665	-.294 to -.033	6.029	1	.041
Time(3Th) ^b	-.162	.0428	-.246 to -.078	14.362	1	<.0001
Time(2Th) ^b	-.120	.0395	-.197 to -.042	9.152	1	.002

a. Reference group, the control group.

b. Reference group, time (1st).

The results showed that RCBT, CBT and Sertraline groups had no significant difference in decreasing depression before intervention compared to post intervention :RCBT and CCBT ($p=0/468$), RCBT and Sertraline ($P=0/124$), CCBT and Sertraline ($p=0/416$). However, the three intervention groups had significant differences on reducing depression compared to the control group after intervention ($P < 0.0001$). In the follow-up phase, the three intervention groups did not differ significantly in depression compared to before intervention. In the follow-up phase, RCBT and CBT did not differ compared to before intervention. There was no significant difference between the sertraline group ($p = 0.346$), RCBT group and sertraline with CBT group ($p = 0.564$). But there were significant differences between the three intervention groups with the control group before intervention ($P < 0.0001$).

There was a significant difference in the follow-up stage between the intervention groups. There was no significant difference between the RCBT and CBT groups ($p = 0.316$) and between the RCBT and sertraline ($p = 0.414$), but there was a difference between the CBT with Sertraline ($p = 0.014$), with control ($p = 0.027$), RCBT group with control ($p = 0.001$) and control with sertraline ($p < 0.0001$).

The results within groups showed that there was significant difference between RCBT ($P < 0.0001$), CBT, Sertraline, and control groups ($p = 0.001$) before intervention to after intervention and in the pretest to follow-up. There was a growing trend of depression score in the control group and a decreasing trend was observed in the treatment groups. The decrease in RCBT in the time intervals of before intervention to after intervention ($p < 0.0001$), before intervention to follow-up ($p < 0.0001$) and after intervention to follow-up ($P = 0.002$) were significant.

The decreasing trend in CBT was significant after intervention ($P = 0.020$), and the decrease in follow-up was also significant ($p = 0.017$), but in this group, the decrease was not significant in the follow-up ($p = 0.814$).

In the Sertraline group, the level of depression decreased during the time, but the level of decrease was not significant in the after intervention ($p = 0.170$), but in the follow-up phase, the changes were significant compared to before intervention (0.0001) p) and after intervention ($p = 0.1010$).

The control group, after intervention ($p < 0.0001$) and follow-up ($p = 0.001$) showed significant increases. However, the incremental changes in the follow-up were not significant compared to after intervention ($p = 0.991$) (Table 3).

Table 3: Comparison of training gains in outcome variables by group.

Variable	RCBT	CBT	Sertraline	Control	k-w test	Post hoc*
T2-T1	-2.53(3.50)	-1.40(3.86)	-.97(4.55)	1.55(2.90)	<.0001	4<2,3,1
T3-T1	-3.05(3.48)	-1.47(3.95)	-1.90(4.75)	1.85(2.95)	<.0001	4<2,3,1
T3-T2	-.53(1.09)	-.08(2.04)	-.93(1.23)	.30(1.14)	<.0001	4<1,3 4<1,2 4<2<3
Wald x2	<.0001	.001	.001	.001		
Post hoc**	T1>T2>T3	T1>T3,T2	T1>T2>T3	T1>T3,T2		

*Mann-Whitney U

** Isd

Discussion

This is the first randomized controlled trial which compared the effect of RCBT, CBT and sertraline on postoperative depression in post-operative patients (CABG) with a follow-up period of 6 months after intervention. The first hypothesis of this study was that the RCBT intervention was more effective than CBT in patients after coronary artery bypass graft surgery. The results of our study showed the same effect of interventions immediately after treatment and follow-up, and there was no significant difference between the two treatments in reducing depression symptoms. Perhaps, one of the reasons why we cannot find the difference between the effectiveness of RCBT and CBT in this study was that the therapeutic content was substantially similar in RCBT and CBT. However, RCBT treatment interventions followed the same CCBT process, with the exception that it used religious beliefs and motivations to stimulate change in thought, behavior, and counteraction to irrational thoughts (18). The patients used their religious teachings and practices to help change beliefs, values and behaviors. These two interventions in our study resulted in a similar outcome in reducing depression in patients who underwent CABG surgery. In addition, this finding showed that the effect of RCBT was not lower than CBT.

The results of some studies were inconsistent with our findings regarding the effectiveness of RCBT intervention in comparison with CBT (21, 33, 42). Azhar (1995) compared two methods of psychotherapy with and without religious perspective on depressed patients and showed that in the religious psycho-therapeutic group, depression symptoms were associated with a faster recovery in the first 3 months after intervention (21).

Razili et al. (1998) also showed that the treatment method was more effective in decreasing the anxiety and depression symptoms of patients, by adding a religious and socio-cultural component to the patient's psychotherapy program and comparing it with standard treatment (42). Koenig et al. (2016) also examined the effects of RCBT versus CCBT on therapeutic alliance and the results showed preference for RCBT therapeutic intervention (33). In another study by Azhar (1995), a comparative study was conducted on patients suffering bereavement. In this study, two methods of psychotherapy with religious views and standard therapies were compared. The results showed a tendency for recovery in more religious patients with grief and bereavement. The individuals who received religious psychotherapy with cognitive-behavioral approach recovered faster (43).

Concerning the same effect of RCBT and CBT, some studies were consistent with our study (20, 22-23, 44-45). In a clinical trial study of the effectiveness of spirituality integrated psychotherapy (SIPT) and CBT in patients with depressive disorder, the results of comparing two therapeutic interventions showed no significant difference in the reduction of depression symptoms in patients (45). Daher et al. (2016) compared religious-cognitive-behavioral therapy with CCBT on purpose in life (PIL) in patients with

major depression and chronic illness. The results showed that RCBT had no more efficacy than CCBT on purpose in life and both treatments had the same effect (22). Lim et al. (2014) also conducted a systematic review of the effectiveness of religiously modified CBT to standard CBT or other treatment modalities for the treatment of depressive disorders, general anxiety disorder, and schizophrenia of religious-CBT with standard CBT for depression, general anxiety and schizophrenia. The results showed no difference between the effectiveness of religiously modified CBT to standard CBT or other methods. However, combining religious content with CBT may be considered a suitable treatment for people with strong religious beliefs (44).

Koenig et al. (2015) also compared the effectiveness of religious-cognitive-behavioral therapy (RCBT) with standard cognitive-behavioral therapy (SCBT) regarding the increased optimism in MDD patients and chronic medical conditions. The results showed that RCBT and SCBT had similar effects on the increased optimism in MDD patients, and increased optimism in turn led to a decrease in depressive symptoms (20).

In another study, two RCBT methods were compared with CCBT on increasing the daily spiritual experience (DSE) in patients having physical problems with depressive disorder. The baseline DSE and its changes were evaluated as predictors of change in depressive symptoms. The results showed an increase in DSE and decreased depression in both treatment groups (23). The second hypothesis examined the effectiveness of RCBT intervention regarding sertraline on depression in patients after coronary artery bypass graft surgery. The results showed that RCBT and sertraline had similar effects in decreasing depression and there was no significant difference between the two therapeutic methods. Although the effect of RCT treatment on depression was not lower in this study, more research is needed to find an appropriate response to the efficacy of this therapeutic approach. In this regard, the results of some opposite studies (45) and some consistent (44) studies have been reported.

Ebrahimi et al. (2013) compared spiritual integrated psychotherapy (SIPT) with the pharmacological methods in patients with depression. The results showed that in contrast to the results of the present study, SIPT had higher effects on depression symptoms compared to the antidepressant after intervention and follow-up (45).

The results of a systematic review on the comparison of RCBT and other therapeutic methods, including drug therapies in the treatment of depression disorders, did not show any significant difference in the reduction of depression among treatment groups, which is consistent with the results of this study (44). Therefore, considering the patients' desire to receive treatment for decreasing depression, the treatment method is proportional to the satisfaction (preference) of patients. In this regard, the results of a meta-analysis showed that approximately 75% of participants preferred the treatment of psychologists to drugs, in reducing depression and anxiety disorders (46).

The third hypothesis of this study investigated the effectiveness of RCBT, CBT and Sertraline interactions with conventional therapy on depression in patients after coronary artery bypass graft surgery. Our results showed that RCBT significantly had a greater effect on depression symptoms than the control group immediately after intervention and follow-up, and these results were consistent with other studies (45, 47-48).

A meta-analysis study clearly demonstrated that religious spiritual intervention (RSI) is associated with a significant improvement in depression even with different models, and the results between the intervention and control groups were compared before and after the intervention (47).

In another study by Rahimi et al. (2015), the effectiveness of integrated spiritual-cognitive-behavioral group therapy was investigated by using the Islamic mysticism approach on depression, feelings of guilt and loneliness. The results indicated the effectiveness of this intervention in significantly reducing emotional problems (Depression, feeling of guilt and loneliness) in the experimental group compared to the control group (48).

Ebrahimi et al. (2013) reported the efficacy of SIPT in comparison with the usual treatment for decreasing the severity of depressive symptoms in patients with depressive disorder in post-test and follow-up ($P < 0.01$) (45). The results of this study also showed that CBT treatment intervention was significantly more effective in decreasing depression symptoms than the control group (routine treatment) immediately after intervention and in the follow-up, and these results were similar to other studies (49-50). Hynninen et al. (2010) examined the efficacy of cognitive-behavioral therapy (CBT) in patients with COPD, clinical anxiety and depression. The results indicated a rapid reduction in anxiety and depression symptoms in the CBT group compared to the control group (49). Doering et al. (2016) also examined the effect of CBT intervention on depression in patients undergoing cardiac surgery. The results not only showed a decrease in depression in patients undergoing CBT intervention in comparison with the usual treatment group, but also other benefits after surgery, such as improved perceived control and improved coping skills related to pain and pain relief in patients (50). In this study, CBT was effective in reducing depression with continuity of patients in comparison with the usual treatment in after intervention and follow-up periods.

In a critical review of psychosocial interventions and pharmacological therapies, Wolf et al. (2008) stated that the results generally showed comparable efficacy of psychotherapy and pharmacological therapies, while both methods were superior to treating depression compared to conventional methods (51).

Regardless of the positive findings in this study, some limitations may affect the interpretation of findings and their generalizability. Among these, our study only considered patients with mild to moderate depression. It seems that patients with severe depression should be considered to better understand the efficacy of RCBT in comparison

with other pharmacological and non-pharmacological therapies. Also, this therapeutic comparator was exclusively specific to patients after the CABG operation, so that the generalizability of its results on other depressed patients with physical problems should be done with caution. The limited number of treatment sessions was one of the other limitations of this study. Continuation of more treatment sessions could provide more effective and lasting treatment responses. Another limitation of this study was the lack of similar studies in patients after CABG surgery, which resulted in comparing RCBT, CBT and drug methods in other patient groups.

This study also has many strengths. First, in order to compare the effectiveness of interventions, in addition to comparing intervention groups with each other, the control group was compared with them. Second, for the exact determination of depression symptoms, clinical interview (DSM-IV) and HADS tool were used. However, by considering the religious beliefs and attitudes in our society, religious beliefs and motivations were used to stimulate the change of thoughts and counteract irrational thoughts in a researcher-made package of RCBT therapy to reduce depression.

Conclusion

It was assumed that RCBT would have a greater impact on depression in this group of patients compared to CBT and drug therapy (sertraline). The results of this randomized controlled trial indicated that RCBT, CBT and sertraline had a similar effect in reducing the symptoms of depression in the study population after the intervention and follow-up period. However, these interventions were more effective than the control group. Considering the cultural and religious beliefs in our society, it seems that by integrating religion in cognitive-behavioral therapy, especially in religious subjects, it can be considered as an effective factor in coping and treating the psychological problems of patients, as with other non-pharmacological methods. Further trials in this area are necessary.

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