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Group Based Cognitive Behavioral Therapy for Depressed Iranian Migrants in Austria

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Abstract

The purpose of this study was to evaluate the effectiveness of Group based Cognitive-Behavioural Therapy (GCBT) for Iranian migrants with Major Depressive Disorder (MDD) in Austria. Twenty-three Iranian women and men with an average, 40.4 years old that met DSM-IV criteria for MDD were randomized to the GCBT, Individual CBT, and Waiting-List control groups. All two types of interventions comprised 17 sessions lasting 60 minutes for individual CBT and 120 minutes for GCBT. The results showed a significant reduction in depression symptoms in GCBT group, evaluated by BDI-II, BSI (scale 4), and ATQ. The significant decrease in depression was found for individual CBT group with respect to BDI-II and ATQ as well. However, individual CBT in this study was not successful to decrease depression mood evaluated by BSI (scale 4) from pre- to post-intervention. A significant group differences between GCBT and individual CBT in BSI (scale 4) at post-intervention may highlight that GCBT in this study showed a stronger effect on depressed mood compared to individual CBT. The follow-up measurements revealed a significant deterioration for both groups. The findings from this study suggest that the reasons behind the Iranian migrant's depression may be related to their chosen dysfunctional acculturation strategies. Therefore, GCBT can be considered an appropriate treatment for Iranian migrants with MDD by encouraging them to be more in contact with people from their own socio-cultural background and motivating them to modify their acculturation attitudes.

Keywords: immigration, acculturation attitude, Iranian migrants, major depressive disorder, Group based Cognitive-Behavioural Therapy

1. Introduction

Migration as a global phenomenon may confront immigrants, who left their own country in pursuit of financial, political, social, familial, educational, and personal goals, with a confusing number of threats to their self-esteem and cultural identity (Berry, Kim, Minde, & Mok, 1987a). According to Berry's model of acculturation, there are two main factors in estimating the type of acculturation: retention of the heritage culture and attainment of the new one. These factors result in four acculturation strategies: integration (retention of one's heritage culture as well as attainment of the new one), separation (retention of the heritage one but not attainment of the new one), assimilation (abandonment of one's heritage culture and adoption of the new one), and marginalization (the loss of one's heritage culture whiles failing to adapt to the new one). Although bicultural (integrated) individuals must be more under pressure from both the heritage and host culture communities, they generally have a better psychological adaptation (Berry, 1997). Berry et al. (1987a) showed that the Cultural marginalization is significantly related to depressive symptoms and it is expected to be relevant to psychological disorders and psychosomatic problems. In some studies, Loneliness, has been mentioned as a negative outcome of immigration (Sam & Eide, 1991; Zheng & Berry, 1991) and has been connected to diverse types of psychological distress, including mood disturbances (Ward & Kennedy, 1994), reductions in life satisfaction (Neto, 1995), and decreased satisfaction with coping potency (Chataway & Berry, 1989). Similarly, some investigations have found the reliable link between migration and physical and mental health problems (Ward, Bochner, & Furnham, 2001). The results of study about Iranian migrants conducted by Ghafarian (1998) revealed that striving to be concurrently connected to both the heritage and host cultures may result in high levels of mental pressure. In another study, Ekblad, Abazari and Eriksson (1999) found that Iranian migrants' well-being and mental health

status in Sweden was lower than non-immigrants. In case of Iranian migrants, depression can be brought about by deficit arising from failure to stabilize contradictory gender roles, family hierarchy, and traditional standards in the host culture. The cognitive schema of Iranian migrants is erected based on belief and value systems raised from their collectivistic socio-cultural background. Process of migration, loss of old friends, family, social support, obstacles to communicate successfully, and difficulties in changing life style, value system and some traditional beliefs can be able to disrate self-respect and increase the possibility for depression (Mohammadi, Taylor, & Fombonne, 2006). As numerous studies confirmed the effectiveness of social support on decreasing the psychological problems (Biegel, Naparstek, & Khan, 1980; Neto, 1995), group based therapies such as GCBT may be considered an effective way for motivating the Iranian migrants to be more in contact with people from their own culture. So consequently it can detract their depression by eradicating their negative cognitions which were shown by Kwon and Oei (2003). They demonstrated that automatic thoughts might play the mediating role between depression and dysfunctional attitudes. These results were also confirmed by Clark, Beck and Alford (1999). They showed the significant reduction in severity of depression after changes in automatic thoughts and dysfunctional attitudes. According to Beck' cognitive theory of depression, the basic causes of depressive symptoms are recognized as negative thoughts, which are brought about by dysfunctional beliefs. Considering a direct relationship between the amount of people's negative thoughts and the severity of their depressive symptoms, high level of depression' severity can be experienced by the more amounts of negative thoughts. Beck also demonstrated that depressed people's way of thinking is dominated by three major dysfunctional "schemas" as follows: 1) I am imperfect and insufficient, 2) All of my experiences and plans lead to defeats, so I am complete failure and useless, and 3) The future is just disappointing and hopeless. Together, these three dysfunctional themes are characterized as the Negative Cognitive Triad by which occurring the depressive symptoms is clearly predictable (Beck, 2011). Therefore, depressive symtoms can be reduced by some major changes in negative thoughts and dysfunctional attitudes and CBT is effective for depression because of its specific concentration on these negative automatic thoughts and dysfunctional beliefs. Other studies have also assessed the effectiveness of GCBT on depression (Antonuccio, Akins, Chatham, Monagin, Tearnan, & Ziegler, 1984; Jacobson & Hollon, 1996). They recommended that GCBT can be considered a main treatment for depression. Considering the Iranian's collectivistic nature of culture, depression or other psychological problems may be brought about by feeling isolated and marginalized, therefore GCBT may motivate the Iranian migrants with depression to be more involved in Iranian socio-cultural activities and have more connection with people from their own culture.

1.1 Overview of the Present Study

The overarching aim of the present study is to evaluate the effectiveness of GCBT among Iranian migrants with MDD in Austria. Considering the limited availability of Iranian psychotherapists in Austria as well as the costlier affected characteristics of GCBT (Oei & Dingle, 2008), it should be taken into account that the GCBT may offer advantages for Iranian migrants. The findings of the current study can pick out and emphasize the special effects of intra-ethnic/racial based group therapies in treatment of migrants with depression. Furthermore, they can clarify exactly how/why intra-ethnic/racial based group therapy increases the psychological well-being among Iranian migrants with MDD and also which factors can make its influence stronger. In addition, as the main theory behind this study is Berry's acculturation theory, the findings can show that which kinds of acculturation attitudes may be mostly chosen by Iranian migrants in Austria and how/why it could lead them to psychological disturbances such as depression.

1.1.1 Hypotheses

Based on the results of the aforementioned studies: 1) With respect to between group post-intervention comparison, the GCBT is expected to be significantly more effective than the individual CBT; 2) With respect to pre-intervention/post-intervention comparison, a significant reduction in clinical symptoms after interventions in both GCBT and individual CBT conditions is expected; 3) With respect to follow-up measurements, the effectiveness of both GCBT and individual CBT in intervention groups is expected to be persistent.

2. Method

2.1 Participants

Although 41 Iranian migrants had indicated that they wished to participate, 23 participants could be included in the analysis of final outcomes. 1) Five participants failed to present for the first session and they informed that they had lost interest. 2) Three participants did not meet the proper criteria for participation. 3) Four participants entered interventions, but had failed complete the sessions. 4) Six participants became ineligible after starting antidepressants after third session of the GCBT and after second session of the ICBT (the participants, who took

medicine, were not asked to leave the interventions, but their results were not added to the final results). 5) Two participants failed to show up for one-month follow-up examination and could not be reached by email and phone. 6) One participant did not show up for six-month follow-up examination, because she had left Austria.

To be included in the present study, the participants had to meet the following criteria:

1)The participant must be between 30- 60 years old. 2) The participants must confirm their consent to participate. 3) The participants must fulfill DSM-IV criteria for Major Depressive Disorder (DSM-V had not been published yet). 4) The participants must have suffered from mild/or moderate depression for at least 1 month. 5) The participants must not have any other comorbid disorders, such as anxiety disorders, or any different types of addiction. 6) The participants must not have suicidal ideation. 7) The participants must have been living in Austria more than three years. 8) The participants must have Austrian citizenship.

Table 1. Descriptive statistics for age and duration of settling in Austria

	N	Mean	SD	SD Error	Min	Max
age	23	40,43	5,623	1,173	31	55
duration	23	14,00	4,786	,998	6	25

Table 2. Descriptive Statistics for education, marital status, gender, and occupation

		N	Percent
Education	Diploma	6	18%
	Bachelor	12	67%
	Master	4	12%
	M.D.	1	3%
Marital Status	Divorced	10	61%
	Married	8	24%
	Single	5	15%
Gender	Female	15	76%
	Male	8	24%
Occupation	Unemployed	3	9%
	Employed	20	91%

2.2 Materials

All the scales were used in Farsi language version. All of them had been translated into Farsi and validated for Iranians before. Therefore, the Iranian norms of the scales were used in this study.

2.2.1 Demographic Data

The general background information, such as gender, age, marital status, occupation in Iran and in Austria, education, and date of arrival in Austria was obtained using a brief demographics questionnaire.

2.2.2 Brief Symptom Inventory

Symptoms of depression were measured by Farsi version of Brief Symptom Inventory (BSI; Mohammadkhani, Dobson, Amiri, & Ghafari, 2010), which comprises 53 items on nine scales Somatization (Cronbach's α=0.87; test-retest reliability=0.68), Obsessive-Compulsive (Cronbach's α=0.79; test-retest reliability=0.85), Interpersonal Sensitivity (Cronbach's α=0.78; test-retest reliability=0.85), Depression (Cronbach's α=0.87; test-retest reliability=0.84), Anxiety (Cronbach's α=0.84; test-retest reliability=0.79), Hostility (Cronbach's α=0.79; test-retest reliability=0.81), Phobic Anxiety (Cronbach's α=0.75; test-retest reliability=0.91), Paranoid Ideation (Cronbach's α=0.80; test-retest reliability=0.79) and Psychoticism (Cronbach's α=0.71; r=0.78) plus the global severity index (GSI, the arithmetic mean of all items of the BSI; Cronbach's alpha=0.96; test-retest reliability=0.90). In this study, scale 4 (depression) was used in final analysis.

2.2.3 Beck Depression Inventory

Intensity of depression was measured by the Farsi version of the Beck Depression Inventory (BDI-II; Ghasemzadeh, Mojtabai, Karamghadiri, & Ebrahimkhani, 2005) with answer options ranging from 0 (e.g., ‘‘I have not lost interest in other people or activities”) to 3 (e.g., ‘‘It is hard to get interested in anything”) and high Cronbach’s alpha (0.87) and test-retest reliability (0.73). Only people with mild or moderate depression were included.

2.2.4 Automatic Thoughts Questionnaire

The types and severity of Automatic Thoughts were assessed by the Farsi version of the Automatic Thoughts Questionnaire (ATQ; Ghasemzadeh, Mojtabai, Karamghadiri, & Ebrahimkhani, 2006) with answer options ranging from 1 (Not at all) to 5 (All the time) (e.g., ‘‘I am worthless”) and high Cronbach’s alpha (0.96) and test-retest reliability (0.84).

2.2.5 Depression Anxiety Stress Scale

Generalized Anxiety Disorder (GAD) as a common comorbid disorder with MDD was distinguished by the Farsi version of the Depression Anxiety Stress Scale (DASS-21; Bayani, 2010) with answer options ranging from 0 (Did not applied to me at all) to 3 (Applied to me very much, or most of the time) (e.g., ‘‘I found it difficult to relax”) and high test-retest reliability (0.72) and Cronbach’s alpha (total scales: 0.91; Anxiety: 0.88; Depression: 0.92; and Stress: 0.82). People with only MDD were included.

2.2.6 Beck Scale for Suicidal Ideation

Depressed people with suicidal ideation were distinguished and excluded by the Iranian version of Beck Scale for Suicidal Ideation (BSSI; Mousavi, Keramatian, Maracy, & Fouladi, 2012) with answer options ranging from 0 (None) to 2 (Moderate to strong) (e.g., ‘‘Attitude toward ideation/wish”) and high test-retest reliability (0.87) and Cronbach’s alpha (0.95).

2.2.7 The Acculturation Scale

The Farsi version of The Acculturation Scale (Shahim, 2007; Cronbach’s α=0.83, 0.25≤test-retest reliability≤0.65) was used to evaluate cultural attitudes, cultural identity, cultural values, and language preferences. Responses are ranged from (1) *low acculturation* or higher maintenance to Iranian cultural values to (3) *high acculturation* or lower maintenance to Austrian cultural values. The total score can be interpreted based on Berry’s model of acculturation as score 1 may represent “Separation”; 2 may represent “Integration”; 3 may represent “Assimilation”; and 0 may represent “Marginalization”.

2.2.8 Qualitative Data

As the fundamental aim of this study was understanding the basic reasons of the Iranian migrant’s depression and also the failures and successes regarding effectiveness of group based CBT, the qualitative method was also applied. The qualitative data were collected through the interviews with group-members. To obtain more information from the participants, they were asked to talk about their childhood and teenage years, reasons for emigration, their life-style before and after immigration, and their social situations.

2.3 Data Collection

Prior to study, the researcher introduced herself and informed the participants about the purpose of study. The participants were told that the basic aim of this study was to examine the effectiveness of group based CBT as a non-medication therapy for depression. They were also informed that their collaboration in the study was completely voluntarily and withdrawal from the interventions at any time was plausible without any problem. The time table for the interventions was also explained. If the participant was interested, one appointment was scheduled for him/her to be evaluated based on the inclusion criteria. Prior to entering the interventions, all interested participants were privately interviewed based on Major Depressive Disorder section of Farsi version of Structured Clinical Interview for DSM-IV (SCID; Sharifi, Assadi, Mohammadi, & Amini et al., 2007). The psychometric tests were also performed and demographic information was also obtained. The participants, who met the inclusion criteria, were requested to confirm in writing their consent to participate in this study. The participants, who did not meet the inclusion criteria, were explained about it and referred to the Iranian psychiatrist, especially in case of having suicidal ideation. The confidentiality of participants in this study was protected by filing all data based on an allocated numbers and codes rather than the name or other special personal information. Interviews and psychometric tests were conducted between July/August 2013 and May/June 2014 at four time points: prior to therapy, after intervention, one-month and six-month follow-up. Patients who did not complete interventions as planned by the therapist (myself) were interviewed voluntarily to

explain their reasons. All participants were also interviewed in the middle of intervention, to reflect openly their experiences and expectations. At the end of the study, in one organized session for each group, the study debriefing was provided to the participants. The hypotheses and main questions, the way of testing the hypotheses, the importance of the study and the main outcomes and results were explained completely to the participants. One extra session was organized for those participants, who had more questions and were interested to know more about the practical goals of the study.

2.4 Interventions

The included participants were randomized to three different groups: (1) ICBT, (2) GCBT and (3) wait-list control condition that was offered GCBT at the end of the study. The GCBT included seventeen sessions per 120 minutes, twice a week, plus two follow-up (one-month & six-month) measurements. The manual of GCBT for MDD was used for group therapy in this study (Bieling, McCabe, & Antony, 2006). The ICBT consisted of seventeen sessions per 60 minutes, twice a week, plus two follow-up (one-month & six-month) measurements. The basic theory behind the ICBT in this study was "Beck' cognitive theory of depression" (Beck, Rush, Shaw, & Emery, 1979). The participants in waiting-list control group were regularly checked by phone once a week to be assured that none of them were given any kind of psychological or medical treatment. All the interventions covered the basic components of Cognitive Behavioral Therapy as follows: 1) Psycho-social education; 2) Cognitive modification; 3) Behavioral modification; 4) Homework assignment.

2.5 Statistical Data Analysis

2.5.1 Quantitative Analysis

In order to analyze the quantitative data, the program "SPSS for Windows, version 20 SPSS Inc" (Statistical Package for the Social Sciences) were employed.

In order to examine whether the GCBT and ICBT in intervention groups and waiting-list control group are significantly effective, the Paired Sample T-test was used.

In order to evaluate whether the GCBT and ICBT in intervention groups are significantly more effective than GCBT in waiting-list control group, the One-Way between subjects ANOVA was applied.

In order to calculate the Follow-up measurements for all three groups, the Mixed-design ANOVA was employed.

2.5.2 Qualitative Analysis

In order to analyze the interviews, GABEK method (GAnzheitliche BEwältigung von Komplexität; Holistic Processing of Linguistic Complexity; Zelger, 1991) was applied. The Software for GABEK-Applications is WinRelan. GABEK is a comprehensive method for qualitative social studies and enables the connection and use of resources for planning and evaluation of measures. GABEK method explains "how individuals perceive and understand different experiences, describe and explain them, feel about them, judge them, remember them and interpret them". As in other methods of qualitative study, most GABEK-projects start with gathering verbal data using interviews (Zelger & Oberprantacher, 2002).

3. Results

3.1 Quantitative R esults

3.1.1 Pre-Intervention Comparison of Quantitative Data

This part evaluates sample comparability before interventions. in order to make sure about the absence of pre-existing differences among three groups, one-way between subjects ANOVA were employed.

Table 3. Descriptive results of variables (BDI-II, ATQ, and BSI) in pre-intervention

		N	Mean	SD	Min	Max
BDI	GCBT	13	22	2.27	18	25
	ICBT	9	21	2.6	18	25
	WL	11	21.45	2.16	18	25
ATQ	GCBT	13	50.54	10.46	21	61
	ICBT	9	48.89	8.02	36	58

	WL	11	50.73	8.83	31	60
	GCBT	13	2.23	.25	1.89	2.63
BSI	ICBT	9	2.18	.26	1.85	2.76
	WL	11	2.19	.16	1.96	2.43

Legend: ICBT=Individual Cognitive Behavioral Therapy; WL=Wait List control condition; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

As one-way between subjects ANOVA depends on the test of homogeneity of variance, the basic assumption of homogeneity of variance was evaluated using the Levene's test for homogeneity of variances. Table 4, demonstrates the outcomes of Levene's test of equality of variance of the three groups in pre-intervention.

Table 4. Levene's test of equality of variance for the variables in pre-intervention

	Levene Statistic	df1	df2	p
BDI	.434	2	30	.652
ATQ	.006	2	30	.994
BSI	.609	2	30	.551

Note. *significant values (p<.05)

As it can be seen in Table 4, none of the variables showed significant outcomes. The one-way between subjects ANOVA results are presented in Table 5.

Table 5. One-way between subjects ANOVA at Table 1 (pre-intervention)

Variable	Source	Sum of Squares	df	Mean Square	F	P
	Between Groups	5.455	2	2.727		
BDI	Within Groups	162.727	30	5.424	.503	.610
	Total	168.182	32			
	Between Groups	19.941	2	9.970		
ATQ	Within Groups	2614.301	30	87.143	.114	.892
	Total	2634.242	32			
	Between Groups	.014	2	.007		
BSI	Within Groups	1.514	30	.050	.141	.869
	Total	1.528	32			

Legend: ICBT=Individual Cognitive Behavioral Therapy; WL=Wait List control condition; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

As it is represented in Table 5, there was no significant group difference pre-intervention with regard to severity of depression scores as measured with the second version of Beck Depression Inventory (BDI-II), automatic thoughts scores as measured with the Automatic Thoughts Questionnaire (ATQ), and depression scores as measured with the Scale 4 of Brief Symptom Inventory (BSI). As it can be seen in Table 4, the homogeneity of variance assumption was met.

3.1.2 One-way Between Subjects ANOVA for Post-Intervention Comparison of Quantitative Data

In order to ensure the significant difference between intervention groups and control group, one-way between

subjects ANOVA were applied.

Table 6. Descriptive results of variables (BDI-II, ATQ, and BSI) in post-intervention

		N	Mean	SD	Min	Max
BDI	GCBT	9	18.67	1.73	16	21
	ICBT	6	19.17	2.14	17	22
ATQ	GCBT	9	36.44	10.69	12	51
	ICBT	6	35.17	3.87	32	41
BSI	GCBT	9	1.92	.14	1.78	2.14
	ICBT	6	2.19	.29	1.85	2.67

Legend: ICBT=Individual Cognitive Behavioral Therapy; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

Table 7. The effects of GCBT and ICBT as compared to WL at post-intervention

		Sum of Squares	df	Mean Square	F	P
BDI	Between Groups	37.080	2	18.540	4.174	.031*
	Within Groups	88.833	20	4.442		
	Total	125.913	22			
ATQ	Between Groups	931.097	2	465.548	5.501	.012*
	Within Groups	1692.556	20	84.628		
	Total	2623.652	22			
BSI	Between Groups	.432	2	.216	5.800	.010*
	Within Groups	.745	20	.037		
	Total	1.177	22			

Note. *significant values (p<.05)

Legend: BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

The One-way between subjects ANOVA revealed the significant difference among GCBT, ICBT and WL groups at post-intervention. It is also important to underline that there was no significant difference in BSI (scale 4), BDI-II and ATQ scores among three groups in demographic variables. Post-hoc analyses using Tukey's HSD were applied to compare groups with respect to the mean difference between pre-post BDI-II, ATQ, and BSI scores (Table 8).

Table 8. Pairwise comparisons among three groups for BDI-II, ATQ, and BSI Scores

Dependent variables	Group I	Group J	Mean differences (I-J)	SD Error	p
BDI-II	GCBT	WL	-2.83	1.02	.031*
	ICBT	WL	-3	1.10	.034*
ATQ	GCBT	WL	-12.81	4.47	.025*
	ICBT	WL	-14.08	4,97	.026*
BSI (scale 4)	GCBT	WL	-.29	.094	.016*
		CBT	-.27	.10	.039*

Note. *significant values (p<.05)

Legend: ICBT=Individual Cognitive Behavioral Therapy; WL=Wait List control condition; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

Post-hoc analyses using Tukey's HSD indicated that the mean score for the WL control condition at t2 was significantly different from the GCBT (BSI, scale 4: p=.002; BDI: p=.012; ATQ: p=.032) and ICBT (BDI: p= .027; ATQ: p=.020) groups and the mean score for GCBT group at t2 was significantly different from the ICBT (BSI, scale 4: p=.002). However, the GCBT did not significantly differ from the ICBT in BDI-II and ATQ scores.

3.1.3 Paired Sample T-test to Examine the Significant Effect of GCBT and ICBT

As it was mentioned before, the effects of the GCBT and the ICBT on depression were assessed by BDI-II, ATQ and Scale 4 of the BSI.

Table 9. The effects of GCBT and ICBT at post-intervention

		Paired Differences						
		Mean	SD	SD Error	t	df	p	d
BDI-II	GCBT	2.89	1.83	.61	4.73	8	.001*	.86
	ICBT	3	1.26	.52	5.81	5	.002*	.93
ATQ	GCBT	12.89	6.88	2.29	5.52	8	<.001*	.89
	ICBT	14.17	6.18	2.52	5.62	5	.002*	.93
BSI	GCBT	.35	.22	.072	4.80	8	.001*	.86
	ICBT	.033	.036	.015	2.30	5	.070	.72

Note. *significant values (p<.05)

Legend: ICBT=Individual Cognitive Behavioral Therapy; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

A significant reduction in depression scores in BDI-II and ATQ in both groups and BSI (scale 4) in GCBT between t1 and t2 (pre- & post-intervention) means that the interventions were significantly effective. However, the same results were not found for ICBT, which means that although ICBT could decrease intensity of depression (based on score of BDI-II) and negative automatic thoughts (based on score of ATQ), it was not completely successful to reduce depressed mood (based on BSI; scale 4) in participants. These results suggest that GCBT and ICBT were significantly effective for Iranian migrants with MDD. Although both interventions were equally effective in declining the severity of depression and negative automatic thoughts, the significant difference between GCBT and ICBT in BSI scores indicated that GCBT was stronger than ICBT in reducing depressed mood.

3.1.4 Paired Sample T-test to Examine the Significant Effect of Intervention in Wait-List Control Group

Table 10. Descriptive results of variables in WL control group in post-intervention

		Pre-intervention			Post-intervention		
		N	Mean	SD	N	Mean	SD
WL	BDI-II	11	21.45	2.16	8	19.38	2.33
	ATQ	11	50.73	8.83	8	42.63	9.81
	BSI	11	2.19	.16	8	2.10	.17

Legend: WL=Wait List control condition; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

Table 11. The effects of intervention in WL control group at post-intervention

		Paired Differences						
		Mean	SD	SD Error	t	df	p	d
WL	BDI-II	2.13	1.55	.55	3.87	7	.006*	.83
	ATQ	6.63	2.72	.96	6.88	7	<.001*	.93
	BSI	.11	.096	.034	3.08	7	.018*	.76

Note. *significant values (p<.05)

As it is illustrated in Table 11, depressive symptoms as measured by the BDI-II, ATQ and Scale 4 of the BSI were reduced significantly from pre- to post-intervention, which means that the GCBT was significantly effective in Wait-List control group as well.

3.1.5 Follow-up Measurements

In addition to the F- ratio, partial eta² was extracted to evaluate the effect size.

The Descriptive Results for BDI-II, ATQ, and BSI scores are shown in Table 12.

Table 12. Mean and SDs of BDI-II, ATQ, and BSI in Pre-intervention, Post-intervention, one- and six-month Follow-up in individual CBT and group based CBT

		Pre-intervention			Post-intervention			One-month follow-up			Six-month follow-up		
		N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
BDI	GCBT	13	22	2.27	9	18.67	1.73	9	19.78	2.39	8	20.63	2.2
	ICBT	9	21	2.6	6	19.17	2.14	4	19.25	2.5	4	20	2.16
ATQ	GCBT	13	50.54	10.46	9	36.44	10.69	9	43.11	12.67	8	45.63	11.83
	ICBT	9	48.89	8.02	6	35.17	3.87	4	49.50	3.11	4	52.5	3.7
BSI	GCBT	13	2.23	.25	9	1.92	.14	9	2.14	.21	8	2.23	.25
	ICBT	9	2.18	.26	6	2.19	.29	4	2.02	.18	4	2.04	.15

Legend: ICBT=Individual Cognitive Behavioral Therapy; GCBT=Group based Cognitive Behavioral Therapy; BDI-II=Beck Depression Inventory version II; BSI=Brief Symptom Inventory; ATQ=Automatic Thought Questionnaire.

The results of the mixed-design ANOVA for BDI-II scores are shown in Table 13.

Table 13. Results of the mixed-design ANOVA of Group, Time and Time by Group of BDI-II from Pre-intervention, Post-intervention to one- and six-month follow-up

Source	Sum of Squares	df	Mean Square	F	P	η^2
Group	.500	1	.500	.016	.908	.005
Time	26.125	3	15.231	23.222	.003*	.886
Group x Time	1.250	3	.887	.882	.439	.227
Error	4.250	9	1.417			

Note. *significant values (p<.05)

Legend: Group=2 (Individual Cognitive Behavioral Therapy and Group based Cognitive Behavioral Therapy); Time=4 (Pre-intervention, Post-intervention to one- and six-month follow-up).

As it can be seen in Table 13, there was a significant main effect for time. Partial eta² demonstrates a large effect size for time. Although participants in both intervention groups (ICBT, GCBT) showed significantly more improvement with respect to Beck Depression Inventory (BDI-II) from pre-intervention to post-intervention, there was deterioration for two groups in one- and six-month follow-up.

The results of the mixed design ANOVA for ATQ scores are shown in Table 14.

Table 14. Results of the mixed-design ANOVA of Group, Time and Time by Group of ATQ from Pre-intervention, Post-intervention to one- and six-month follow-up

Source	Sum of Squares	df	Mean Square	F	P	η^2
Group	225.781	1	225.781	3.787	.147	.558
Time	1165.844	3	867.454	105.886	<.001*	.972
Group x Time	43.094	3	27.547	1.729	.267	.336
Error	74.781	9	15.934			

Note. *significant values (p<.05)

Legend: Group=2 (Individual Cognitive Behavioral Therapy and Group based Cognitive Behavioral Therapy); Time=4 (Pre-intervention, Post-intervention to one- and six-month follow-up).

As it can be seen in Table 14, there was a significant main effect for time. Partial eta² illustrates a large effect size for time. Although participants in both intervention groups (ICBT, GCBT) showed significantly more improvement with respect to Automatic Thoughts Questionnaire (ATQ) from pre-intervention to post-intervention, there was deterioration for two groups in one- and six-month follow-up.

The results of the mixed-design ANOVA for BSI scores are shown in Table 15.

Table 15. Results of the mixed-design ANOVA of Group, Time and Time by Group of BSI from Pre-intervention, Post-intervention to one- and six-month follow-up

Source	Sum of Squares	df	Mean Square	F	P	η^2
Group	.140	1	.140	.760	.448	.202
Time	.214	3	.130	9.580	.022*	.762
Group x Time	.169	3	.123	7.622	.045*	.718
Error	.067	9	.007			

Note. *significant values (p<.05)

As it can be seen in Table 15, There was a significant main effect for time and a significant interaction effect of group x time. Partial eta² illustrates a larger effect size for time compared to interaction effect of group x time.

Participants in GCBT group showed significantly improvement with respect to Brief Symptom Inventory (BSI) from pre-intervention to post-intervention. However, there was deterioration for both groups in one- and six-month follow-up.

3.1.6 Acculturation Attitudes

In this part, in order to assess acculturation orientation in participants, Descriptive Statistics were used.

Table 16. Descriptive Statistics for Acculturation Attitude Scale

	GCBT Pre-intervention			GCBT Post-intervention			ICBT Pre-intervention			ICBT Post-intervention		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD

	13	1.23	1.42	9	1.89	1.17	9	1.22	1.48	6	1.33	1.51
AS	frequency		percent	frequency		percent	frequency		percent	frequency		percent
Assimilation	4		31%	3		33%	3		33%	2		33%
Separation	0		0	0		0	0		0	0		0
Integration	2		15%	4		44%	1		11%	1		17%
Marginalization	7		54%	2		23%	5		56%	3		50%

Legend: AS=Acculturation Strategy; ICBT=Individual Cognitive Behavioral Therapy; GCBT=Group based Cognitive Behavioral Therapy.

As can be seen in Table 16, participants tended to be more marginalized before attending the GCBT and ICBT sessions. After GCBT, their tendency to become integrated becomes higher. However, as can be seen in Table 16, ICBT was not as strong as GCBT to change the acculturation orientation in participants. These results suggest that GCBT was effective to motivate the Iranian migrants to become more socially and culturally involved with people from their heritage culture.

3.2 Qualitative Results

The results are organized under three themes:

1) Becoming depressed

2) Effective group based CBT (Feeling better)

3) Approach to interventions

Pattern analysis of the first theme “becoming depressed”, brought about some main factors showing a process of getting depressed. Pattern analysis of the second theme “effective GCBT”, resulted in some major factors showing a process of reduction in symptoms of MDD after interventions had ended. Pattern analysis of the third theme, showed the main reasons behind the non-persistent effect of the interventions in follow-up measurements.

3.2.1 Becoming Depressed

Data regarding feeling depressed were organized along a time-line: reported feelings prior to interventions, in the middle of interventions, after interventions, and in one-and six-month follow-up. The reported feelings prior to treatments were tremendously helpful to find the main reasons behind the participants’ depression. As can be seen in Figure 1, seven main factors emerged regarding the feeling depressed: 1) Immigration; 2) Unemployment; 3) Getting divorced; 4) Having a boring life; 5) Being misunderstood; 6) Having a stressful childhood; 7) Having problem with past life.

A pattern was found among these factors, showing processes, which led the Iranian migrants to depression. On the other hand, by experiencing such feelings, they became more sensitive and vulnerable to some stressful and negative events through the immigration process.

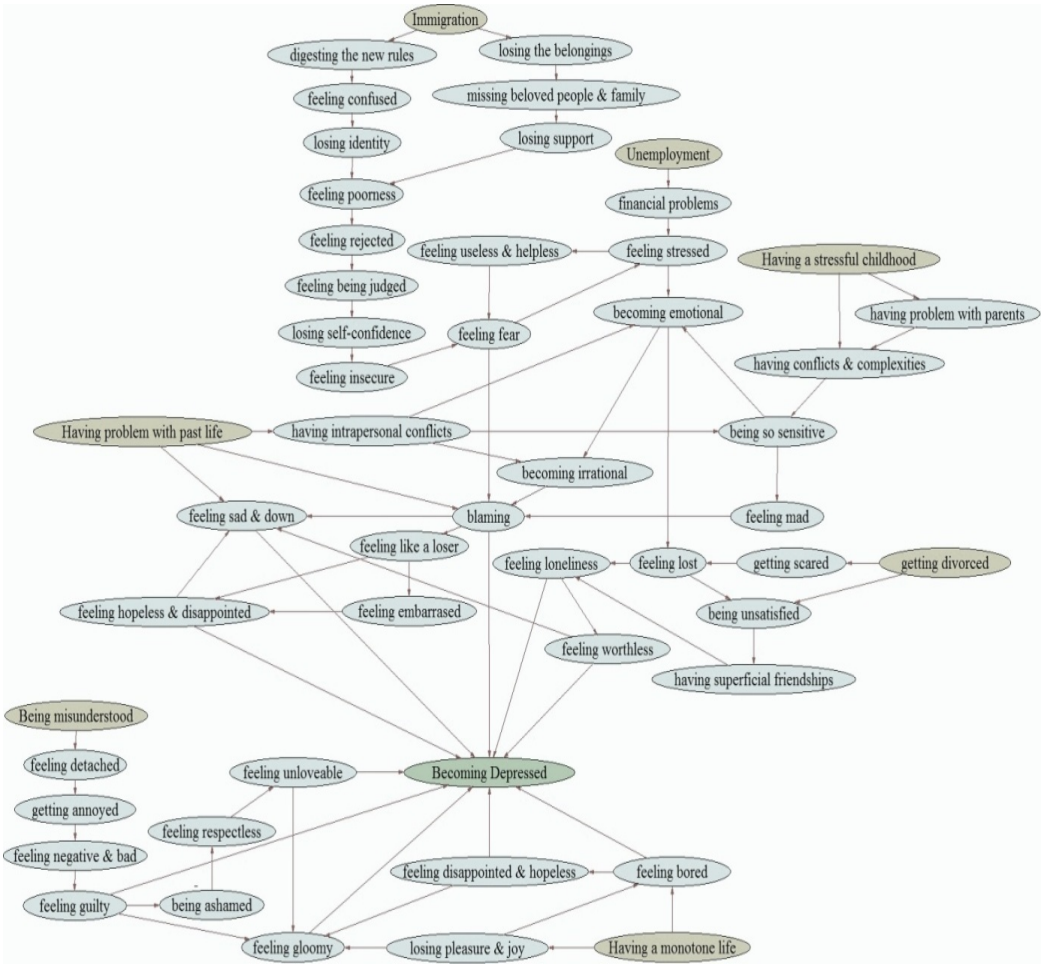

Figure 1. The main factors are shown in dark gray and the processes of becoming depressed are shown in light

3.2.2 Effective GCBT (Feeling better)

Data regarding effectiveness of interventions, especially GCBT on MDD were organized along a time-line: 1) Reported symptoms prior to interventions; 2) Reported symptoms in the middle of interventions; 3) Reported symptoms after interventions; 4) Reported symptoms in one-and six-month follow-up.

Seven major factors emerged regarding the obtained positive effect (see Figure 2):

1)Talking about negative feelings; 2) Talking about fears and loneliness; 3) Meeting people from same culture; 4) Practicing not to be judgmental; 5) Practicing not to blame; 6) Learning some productive strategies; 7) Doing useful home-works.

A pattern was found among these factors, showing processes of changes in symptoms of MDD from the beginning to end of interventions. The participants started feeling better by getting involved into some positive processes of thinking and reacting, such as feeling satisfied, relaxed, safe and less scared, likable, and worthy.

Figure 2. The major factors are shown in dark gray and the processes of feeling better are shown in light

3.2.3 Approach to Interventions

All participants in this study described their approach to the interventions prior to-, right after-, one- and six months after treatments, with most reporting a small positive expectation at the beginning, but experiencing remarkably impressive moments during the interventions.

As can be seen in figure 3, two categories emerged regarding the approach to interventions: 1) Positive approach; 2) Negative approach

A pattern was found among these categories, showing that the effect of interventions was not persistent, especially for participants who had a negative approach, and mentioning the main reasons behind it as well.

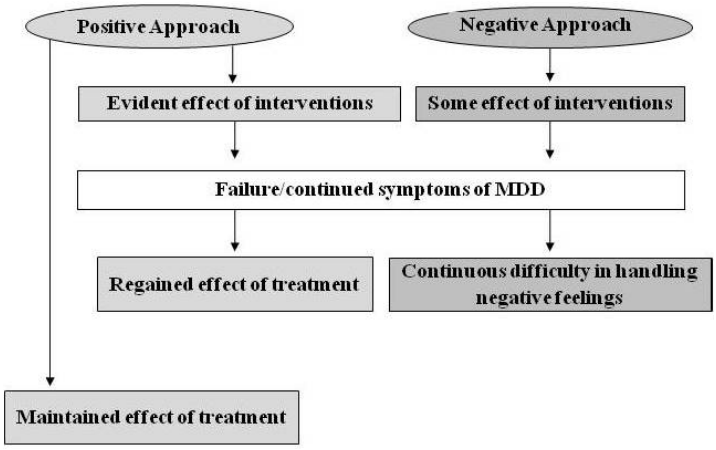

Figure 3. Two different approaches to interventions

3.2.3.1 Positive Approach

These participants showed a positive expectation of the interventions from the beginning. They tended to believe that something positive and effective would happen after treatments. They were completely active during the group sessions. In follow-up measurements, they mentioned that they continued working on their problems actively by giving themselves exercises based on what they had learned during the interventions and also tried to increase their knowledge about MDD and CBT by reading some books or articles on the internet. All described a continuous effort to handle their problems to prevent from backing into old patterns of thinking and behaving. They had been still feeling better in six-month follow-up. However, they did not mention that they felt completely well.

3.2.3.2 Negative Approach

There were participants who showed a negative expectation of the interventions at the beginning, although they described some positive effect of treatments immediately after interventions. They also explained how their increased expectation of treatments made them completely motivated to be more active and productive during the interventions. These individuals mentioned that they tended to repeat the techniques they had learned from the interventions, but as soon the interventions ended they lost their motivation. From their point of view, the main reason was that they expected more from the interventions and they did not obtain what they exactly went for. In their opinion, the interventions were too short and they did not have enough time to receive what they deeply needed. These participants also reported how they started feeling negative and worse again. They had been still feeling depressed in six-month follow-up.

4. Discussion

The main purpose of this study is to investigate the effectiveness of GCBT for Iranian migrants with Major Depressive Disorder (MDD) in Austria. To the best of our knowledge, no research study has been evaluated the effectiveness of GCBT on Iranian migrants with MDD.

The interpretation of results in this study is divided into two parts: 1) Interpretations based on quantitative results; 2) Interpretations based on qualitative results and acculturation theory.

4.1 Interpreting the Results Based on Quantitative Approach

4.1.1 Effectiveness of Interventions (Pre-Intervention to Post-Intervention)

The GCBT and ICBT groups demonstrated that both individual and group based interventions significantly reduced depressive symptoms. However, non-significant group differences with respect to BDI-II and ATQ scores were observed, which is consistent with the study of Khodayarifard, Shokoohi-Yekta and Hamot (2010) demonstrated that both ICBT and GCBT were equally effective in reducing the depression symptoms.

In the present study, the individual CBT was not a successful approach to reduce depressed mood as measured by BSI (scale 4) at post-intervention. As a justification, it can be noted that although ICBT was successfully able to decrease the negative way of thinking in Iranian migrants with depression, it was not strong enough to increase the positivism among them. On the contrary, at post-intervention examination, GCBT found to be clearly sufficient to increase positivism among Iranian migrants with depression. As an explanation, it should be pointed that GCBT was more successful due to its ability to enhance the amount of mutual trust and unconditional acceptance among the group members, especially because of its cultural sensitivity. This result is also confirmed by study of Hollon and Shaw (1979). They also showed that the impact of GCBT was stronger than ICBT. It is important to be mentioned that non-significant results in this study should be also discussed in the light of small sample sizes. According to the study of Fiedler and Kareev (2006), the accuracy levels can be increased by relatively small sample sizes. They suggested that differences tend to be more extreme for small than for large sample sizes; this is because rare events tend to be underrepresented in small samples. On the other hand, one advantage of small samples is that only findings with large effect size can reach significance. Therefore, small effects may be overlooked in small sample sizes.

4.1.2 Effectiveness of Interventions (one-month and six-month Follow-ups)

The present study did not demonstrate the robust effectiveness of both, ICBT and GCBT, in follow up examinations which may indicate that the Iranian migrants were not completely ready to stop the interventions. It may lead to this conclusion that they needed longer-term treatments and interventions to feel higher levels of trust and acceptance in interactions with other group members. As such, this generic tendency may be considered as encouraging because it offers the potential for Iranian migrants with depression to anticipate feelings of trust and acceptance as they approach group communication. These findings are consistent with the prediction that

people will respond more favorably to interactions with in- group members, as people tend to feel greater attraction to members of their own group when group membership is relevant to their social context (Hogg & Hains, 1996; Tajfel, Billig, Bundy, & Flament, 1971).

4.2 Interpreting the Results Based on Qualitative Approach and Acculturation Theory

Whereas a remarkable number of participants had dropped out untimely, qualitative assessments of those who completed the study not only explained the main reasons behind Iranian migrants' depression as well as the effectiveness of GCBT and ICBT, but also highlighted the cultural characteristics of Iranians that made the effectiveness of GCBT stronger.

One of the main reasons that the interventions were effective is the participants' approach to psychotherapy. According to the qualitative results, most of the participants reported a positive expectation of the interventions from the beginning and they tended to believe that something positive and effective would happen after treatments. However, the effectiveness of the interventions was not persistent during follow-up period, which may be explainable based on the participants' acculturation orientation.

It is noticeable that feeling not being judged by other group members, supported, accepted, calm, peaceful, safe and satisfied were the most common experiences for the participants after GCBT, which may confirm that they tended to be more integrated after interventions. It may be considered as another reason that GCBT was stronger than ICBT to increase the positivism among Iranian migrants with depression. There are numerous worthy researches that show the significant negative relationship between social support and depression, anxiety, and stress (Yasin, Safree, & Adawiah, 2010). Therefore, in the absence of a naturally-arising social support, it is important to connect Iranian migrants to the Iranian guided self-help groups and communities. Additionally, it should be taken into account that as a group member's cultural-religious beliefs were close and tolerant, they became more motivated to stay and finish the therapy sessions, although they were very conservative and defensive at the beginning and also expected to feel less trust and acceptance in Iranian-group interactions. Surprisingly, after some group therapy sessions the participants started trusting each other and feeling accepted again and consequently, these kinds of feelings resulted in the sense of belonging to a specific group that helped them be more flexible and comfortable, which is confirmed by the study of Baumeister and Leary (1995). They concluded that people seek frequentative, meaningful, long-term and caring communications and relationships that obviate their need to belong and improve their psychological health and well-being as well.

5. Limitations

Considering the high number of dropouts and significant deterioration in follow-up measurements, the limitations of our procedure can be explained as follows: Firstly, the short-term 2 months of therapy did not give the participants enough time to trust the therapist and other group members completely, which was requisite for the Iranian immigrants in this study. Moreover, in this GCBT, because of the snowball sampling some of the members knew each other somehow and this may have kept many group members from expressing their thoughts and feelings openly. Other limitations of this study comprise (a) This research was carried out on small sample size (b) many individuals with depression symptoms are comorbid with other mental disorders, such as anxiety disorders, suicidal ideations, and in some cases substance abuse, but this study excluded people with this mentioned comorbid disorders, which may influence the results' generalizability.

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