ORIGINAL ARTICLE

Therapeutic Alliance and Group Cohesion in Group Therapy based on Mentalization and Dialectical Behavior in Borderline Personality Disorder: A Randomized Controlled Clinical Trial

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Abstract

Background: Effective common factors such as therapeutic alliance and group cohesion play essential roles in outcome treatment in borderline personality disorder. The present study aimed to investigate the role of therapeutic alliance and group cohesion in group therapy based on mentalization and dialectical behavior in borderline personality disorder.

Methods: This is a single-blind randomized controlled clinical trial conducted on 36 patients diagnosed with BPD (12 in each three groups). They were examined by a semi-structured clinical interview. Data were collected from March 2017 to June 2017. All screening and performance procedures were performed daily in Hefez hospital, Shiraz. Patients were selected through targeted sampling. Data were entered into SPSS, version 21, by using repeated measures and simple regression analysis and analyzed by one who was blind to the groups. The computer method was used for randomization. The participants were categorized into intervention and control groups. Before, immediately and two months after the intervention, the participants filled out the Borderline Personality Disorder Severity Index (BPDSI), Working Alliance Inventory (WAI), Group Cohesion Scale (GCS), Beck Anxiety Inventory (BAI), and Beck Depression Inventory-II (BDI-II) questionnaires.

Results: After the intervention, therapeutic alliance (P=0.005) and group cohesion (P=0.0001) in both experimental groups had significantly higher scores compared to the control group.

Conclusion: The two relationship elements were found to contribute to psychotherapy outcome. Therapeutic alliance and group cohesion had also been estimated to account for at least as much variance in psychotherapy outcome as specific therapeutic interventions.
Trial Registration Number: IRCT20190417043303N1

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Keywords: Therapeutic alliance, Psychotherapy, Borderline personality disorders

Introduction

Patients with borderline personality disorder (BPD) are characterized by insecurity in close attachment relationships, problems of emotional regulation, and a reduced ability to mentalize.[1] Currently, there are

eight specific, evidence-based treatments for BPD.[2] Two of these are mentalization-based treatment (MBT) and dialectical behavioral therapy (DBT).[3] Recently, there has been a refreshed research focus on relational foundations and processes in psychotherapy. The American psychological association suggested research focusing on complex associations betweenthe relationship elements and individual and group qualities to understand treatment outcomes.[4, 5]

Effective treatments shared the characteristics of consistency, coherence and continuity, qualities particularly relevant to borderline personality disorder. There are effective common factors such as therapeutic alliance and group cohesion in outcome treatment in group therapy.[6, 7]

Counter-transference reactions, relationship with the therapist, and group therapy agents may be of particular importance in psychotherapy for BPD,[3] and are also relevant in structured therapies, such as MBT and DBT.[3] The concept of therapeutic alliance often does emphasize the relationship with task, shared goals and emotional bonds,[8-10] and it is a well-defined component of the therapeutic relationship.[11]

There is various evidence which supports therapeutic alliance as a factor in the therapeutic changes. The possible role of the therapeutic relationship is supported by research which suggests that the therapeutic relationship is an important agent of change in psychotherapy.[4, 7, 12-16] The therapeutic alliance predicts the outcome of treatment twice as much as any other variable.[15] Outcomes were also positively correlated with the bonding and agreement-on-goals aspects of the working alliance, but not with the group tasks aspect. Also, stronger therapist-rated alliance predicted lower symptomatic distress in BPD.[11, 17]

While therapeutic alliance focuses specifically on the patient-therapist relationship, cohesion refers to the relationship between the patient and other group members. Group cohesion contains the sense of bonding, working together toward common goals, mutual acceptance, identification and attachment to the group, and interpersonal attractiveness of the group.[10, 18] Cohesion is affective bonds which serve as a basis for therapeutic work in the group process.[19-23] Group cohesion is of great importance for the group dynamic and ultimately for the participants' capability to change.[9, 22-24]

A large number of studies have shown that there is a positive correlation between the group cohesion and patient's recovery and outcome of treatment. The high levels of group cohesion predict a negative reduction in psychological symptoms. In the groups with high levels of cohesion, group members may experience recovery from more clinical symptoms of the disorder and achieve more goals.[10, 22, 25, 26]

The results of the studies about the impact of group cohesion on the consequences of treatment are contradictory. Some studies on group therapy have shown that there is no reliable correlation between the group cohesion and outcome of treatment.[10]

The present study aimed to investigate the role of therapeutic alliance and group cohesion in group therapy based on mentalization and dialectical behavior in borderline personality disorder.

Materials and Methods

This is a single-blind randomized controlled clinical trial. This study was conducted on 60 patients diagnosed with BPD by a psychiatrist. They were examined by a semi-structured clinical interview. Data were collected from March 2017 to June 2017. All screening and performance procedures were performed in daily hospital in Shiraz. The patients were selected through targeted sampling.

Patients who met the inclusion criteria were selected. They were informed about the objectives of the study and signed a written informed consent. Then, they were conventionally divided into three groups of 17 each. In each group, five subjects were excluded from the study. Finally, 36 subjects (12 in each group) participated in the study (Figure 1).

Inclusion criteria were 1) being in the age range of 18 to 27, 2) having at least primary school education, and 3) having received diagnosis BPD by a psychiatric. The exclusion criteria included 1) not being primarily diagnosed with a disease except for BPD, 2) being dependent on a substance (but not substance abuse), 3) receiving any other psychotherapy treatment, and 4) being admitted in psychiatric wards during treatment. They were informed about the objectives of the study and signed a written informed consent.

The intervention group received group therapy based on MBT and DBT, while the control group received no psychological intervention. The sample size was determined as 36 (12 individuals per group). Sample size was determined 6 individuals in each group using NCSS (PASS) software with a type 1 error (α) of 0.05.

After obtaining permission from the authorities, the patients were selected through targeted sampling. They were assured of the confidentiality of their information and were given the right to withdraw from the study at any time during the course of research. Numerical codes and general data were used to maintain anonymity. The participants filled out a) the demographic checklist, b) Borderline Personality Disorder Severity Index (BPDSI), c) Working Alliance Inventory (WAI), d) Group Cohesion Scale (GCS), e) Beck Anxiety Inventory (BAI), and f) Beck Depression Inventory-II (BDI-II).

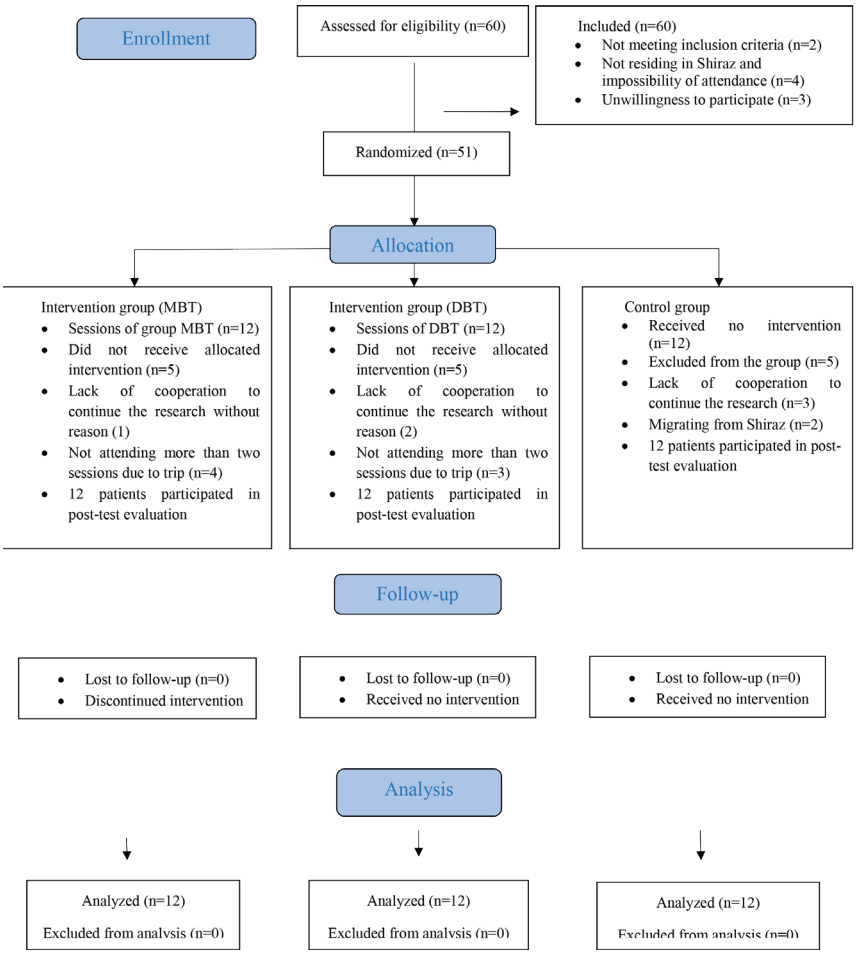

Figure 1: Consort flowchart of the study population

1- Demographic checklist on age, education level, marital status and the type and dose of drugs

2- The BPDSI-IV was developed by Arntz, van den Hoorn, Cornelis, Verheul, van den Bosch, de Bie (2003) to assess the frequency and severity of BPD manifestations during the previous three months. It consists of 70 items, divided into nine subscales representing the nine DSM BPD criteria (Abandonment, Interpersonal Relationships, Identity, Impulsivity, Suicidal Behavior, Affective Instability, Emptiness, Outbursts of Anger and Dissociation and Paranoid Ideation). For each item, the frequency of the last three months is rated on an 11-point scale, running from 0 (never) to 10 (daily). The total score is the sum of the nine criteria scores (range 0–90). Higher scores indicate more severe symptoms of BPD. The BPDSI-IV showed excellent psychometric properties. The internal consistency of the Cronbach's alpha is 0.85 and this scale well distinguishes the patients with borderline personality disorder from other patients. Confirmatory factor analyses supported both a one and nine-dimensional model based on the DSM-IV criteria.[27] This scale was translated and validated in this study. Also, the Cronbach alpha coefficient of the BPDSI was estimated 0.90 in the present study. Also, there was a significant correlation between the BPDSI subscales and BPDSI total score. C factor analyses supported a one-dimensional model (RMSEA=0.06).

3- In WAI which has been made by Horvath & Greenberg (1989), each subscale represents multidimensional theoretical conceptualization of therapeutic alliance (Goals, Tasks, and Bonds)). The WAI-S consists of 36 items, each item being rated on a 7-point Likert scale (1=never; 7=always). Each subscale is assessed with four items: (a) Goals: the extent to which the patient and therapist agree on the overall treatment goals. The patient is aware that these goals are relevant and are identified with the subjects made explicit and implicit during the therapy; (b) Tasks: the extent to which the client and therapist agree on the tasks that are relevant for achieving these goals. The patient feels that the tasks agreed upon during the therapy are rational, reachable and related to the therapeutic goals; and (c) Bonds: the extent of emotional bonding between the patient and therapist in terms of trust and attachment. The questionnaire provides four scores: three subscale scores and an aggregate overall score. Higher total scores reflect a stronger working alliance. Test-retest reliability (interval 2-5 weeks) was 0.84. Evidence of validity was provided by significant correlations of Client Attachment to Therapist Scale (CATS) subscale

scores with measures of WAI in a mixed sample of outpatient and university counseling center clients.[28] This inventory was translated and validated in this study. The reliability of this scale was also examined through internal consistency, with Cronbach's alpha which was significant (α=0.94). Confirmatory factor analyses used for assessing validity supported one-dimensional model (RMSEA=0.01).

4- The GCS-revised assesses cohesion among group members in terms of the diverse dimensions usually noted in the literature as interaction and communication (including domination and subordination), member retention, decision making, vulnerability among group members, and consistency between group and individual goal. The GCS which was made by Treadwell, Lavertue, Kumar, Veeraraghavan (2001) consists of 25 items, each being rated on a 4-point Likert scale (1=never; 4=always). The questionnaire provides a total score. Higher total scores reflect a stronger group cohesion. Cronbach's alpha has been reported in the post-test phase in various samples ranging from 0.77 to 0.90. Confirmatory factor analyses supported one-dimensional model (RMSEA=0.05).[29] This scale was translated and validated in this study. This inventory was translated and validated in this study. The reliability of this scale was also examined through internal consistency, with Cronbach's alpha which was significant (α=0.85). Confirmatory factor analyses for assessing validity supported one-dimensional model (RMSEA=0.05).

5- The BAI is a self-report assessment of anxiety symptoms and consists of 21 items rated on a 4-point Likert scale from 0 (not at all) to 3(severely). It has been developed by Beck, Epstein, Brown, Steer (1988). Higher total scores indicate more severe anxiety symptoms. The standardized cutoffs are: 0–7: minimal anxiety, 8-15: mild anxiety, 16-25: moderate anxiety, 26-63: severe anxiety. The first validation study of BAI reports 0.93 for internal consistency and 0.84 for test-retest reliability.[30] This inventory was translated and validated by Kaviani H, Mousavi (2008). In the Persian form, the internal consistency of Cronbach's alpha was 0.92 and its validity was appropriate (r=0.72, r=0.72, P<0.001).[31] In this study, Cronbach's alpha was 0.87.

6- The BDI-II is a self-report depression scale developed by Beck AT, Steer RA, Brown (1996) to measure affective, cognitive, motivation, and physiological aspects of depression, and is widely used in both research and clinical settings. The BDI-II, published subsequently, introduced changes in the domain and duration cues for measurement. The BDI-II consists of 21 items rated on a 4-point Likert scale from 0 to 3. Higher total scores indicate more severe depressive symptoms. The standardized cutoff points were as follows: 0–13: minimal depression, 14–19: mild depression, 20–28: moderate depression, and 29–63: severe depression. The BDI shows excellent psychometric properties. Internal consistency of Cronbach's alpha was 0.92 in outpatients. Also, there was a significant correlation between the BDI score and BAI (r=-0.60, P<0.01).[32] This inventory was translated and validated by Rahimi (2014). In the Persian version, the internal consistency of Cronbach's alpha was 0.87 and convergent validity with the General Health Questionnaire (GHQ) was 0.73.[33] In this study, Cronbach's alpha was 0.89.

After selecting the cases in three groups, the patients in the experimental groups participated in group therapy sessions. Meetings were held twice a week for 120 minutes. Pretest and posttests were done for the experimental and control groups. The follow up was also carried out 2 months later.

All patients filled out the questionnaires before and immediately after the intervention under the researcher's supervision in the hall of Daily Hospital. Repeated measures and simple regression analysis were used for data analysis. All statistical analyses were performed using SPSS, version 21 software. In addition, the significance level was sconsidered less than 0.05 in the present study. It should be noted that data analysis was performed by one individual with no prior knowledge of the two groups' backgrounds.

Interventions lasted for 10 weeks. The sessions were held twice a week and every session lasted two hours. Session of the DBT was in accordance with the Linehan's guidelines (1993)[34] and MBT sessions relayed on Bateman, Fonagy (2006).[35] The content of the sessions is presented in Table 1:

Results

All of the participants were diagnosed with BPD and were residing in Shiraz. The age range of the subjects was between 18 and 27 years old with a mean and standard deviation of 22.61±2.38. The mean score of age was 23.75±2.22 in the MBT group, 22.08±2.15 in the DBT group, and 22.00±2.52 in the controls, with no statistically significant difference shown in the results of ANOVA (F=2.20, P=0.12). Also, the results of Kruskal–Wallis test revealed that the groups had no significant difference in terms of other demographic information including the education level (x^2=4.93, P=0.08), marital status (x^2=2.56, P=0.61), and dose of the drugs (topiramate: F=0.60, P=0.55; lithium: F=0.56, P=0.57; gabapentin: F=0.11, P=0.89; lamotrigine: F=0.05, P=0.94; welbutrin: F=0.07, P=0.92; alprazolam: F=0.02, P=0.97; propranol: F=0.63, P=0.53) by ANOVA. Data analysis revealed that the groups had no significant difference in variables before the intervention in the pretest stage (Table 2).

Table 1: Content of the sessions MBT and DBT

MBT	DBT
-Concept of mentalization -The concept of problems with mentalizing -Why do we have emotions and what are the basic types? -How do we register and regulate emotions? Relationship between mentalizing and emotions -The significance of attachment relationships? -Relationship between attachment and mentalization -The concept of personality disorder and borderline personality disorder Mentalization-based treatment -Relationship among Anxiety, attachment and mentalizing -Relationship among Depression, attachment and mentalizing	-Mindfulness skills such as: training state of mind, paying attention to what the world, body and mind is doing, paying all of your attention to one thing at a time. -Distress tolerance skills such as: explain about distress tolerance goals, use of distracting, calming yourself and thinking about your choices for surviving bad times, use of breathing, smiling and focusing in accepting reality. -Emotion regulation skills such as: explain about emotion regulation, identifying emotions, benefit of emotions, keeping control of your emotions, change how you feel by acting differently. Relationship effectiveness skills such as: explain about goals of relationship effectiveness, the reason of use relationship effectiveness skills, keeping good relationships.

Table 2: Descriptive characteristics

Variable		MBT	DBT	Control	P
		Mean±SD	Mean±SD	Mean±SD	
Age		23.75±2.22	22.08±2.15	22.00±2.52	0.12
		N(%)	N(%)	N(%)	
Sex	Male	5(41.66)	3(25)	3(25)	0.70
	Female	7(33.58)	9(75)	9(75)	
Marriage	Single	9(75)	10(83.33)	10(83.33)	0.61
	Married	2(16.66)	0(0)	1(8.33)	
	Divorced	1(8.33)	2(16.66)	1(8.33)	
Education	Diploma	0(0)	1(8.33)	4(33.33)	0.08
	Bachelor	9(75)	8(66.66)	7(58.33)	
	Masters degree	3(25)	3(25)	1(8.33)	

Table 3: Descriptive features of variables and repeated measure analysis

Variable	Group	Pretest	Posttest	Follow-up	Between group		Within group	
					F	P	F	P
		Mean±SD	Mean±SD	Mean±SD				
BPD severity	MBT	190.50±47.63	69.00±24.23	75.41±21.02	6.69	0.004*	248.80	0.001*
	DBT	175.08±54.76	57.75±23.93	65.33±24.88				
	control	213.41±86.90	111.83±41.27	150.41±53.89				
therapeutic alliance	MBT	163.75±19.72	181.83±22.73	172.41±25.92	6.23	0.005*	30.55	0.0001*
	DBT	169.25±18.53	195.41±30.92	189.50±31.93				
	control	158.25±24.05	164.33±27.68	143.66±13.72				
Group cohesion	MBT	41.00±4.17	44.25±6.62	47.33±7.88	26.93	0.0001*	13.11	0.001*
	DBT	40.91±3.20	49.41±8.95	52.16±7.64				
	Control	40.16±3.45	42.91±9.04	44.58±10.13				

Data analysis revealed that the groups had no significant difference in variables of BAI (F=0.003, P=0.99) and BDI-II (F=0.43, P=0.65) before the intervention in the pretest stage, using ANOVA. The defaults of repeated measure analysis were also checked: box's M test (P=0.11 in therapeutic alliance, P=0.18 in group cohesion) and Mauchly's test (P=0.70 in therapeutic alliance, P=0.79 in group cohesion).

The results indicated that the severity of BPD decreased and the mean score of therapeutic alliance and group cohesion had changed in all the three groups immediately and after two months of intervention (Table 3).

Results of the repeated measure analysis related to the total score of therapeutic alliance revealed a statistically significant difference among the three groups both immediately and two months after the intervention. Therapeutic alliance increased in the MBT and DBT groups during the treatment. Results of the repeated measure analysis related to the total score of group cohesion revealed a statistically significant difference among the three groups both immediately and two months after the intervention. Group cohesion increased in the MBT and DBT groups during the treatment (Table 3).

The changes in therapeutic alliance were not significant between the two groups of MBT and DBT, but both groups were significantly different compared to the controls receiving the only drug immediately and two months after the intervention. The difference in group cohesion was significant among the groups. Group cohesion in the experimental groups was more than the controls and it was more in DBT than MBT (Table 4).

Table 4: Post-hoc analysis for mean changes in therapeutic alliance and group cohesion

Variable	Group/time			Mean difference	SE	P
BPDSI	Group	MBT	DBT	12.25	17.35	0.48
			Control	-47.83	17.35	0.009*
		DBT	MBT	-12.25	17.35	0.48
			Control	-60.08	17.35	0.002*
		Control	MBT	47.83	17.35	0.009*
			DBT	60.08	17.35	0.002*
	Time	Pretest	Posttest	113.47	6.86	0.0001*
			Follow-up	95.02	6.02	0.0001*
		Posttest	Pretest	-113.47	6.86	0.0001*
			Follow-up	-18.44	1.48	0.0001*
		Follow-up	Pretest	-95.02	6.02	0.0001*
			Posttest	18.44	1.48	0.0001*
Therapeutic alliance	Group	MBT	DBT	-12.05	8.34	0.15
			Control	17.25	8.34	0.04*
		DBT	MBT	12.05	8.34	0.15
			Control	29.30	8.34	0.001*
		Control	MBT	-17.25	8.34	0.04*
			DBT	-29.30	8.34	0.001*
	Time	Pretest	Posttest	-16.77	4.28	0.0001*
			Follow-up	-4.77	4.68	0.31
		Posttest	Pretest	16.77	4.28	0.0001*
			Follow-up	12.00	2.49	0.0001*
		Follow-up	Pretest	4.77	4.68	0.31
			Posttest	-12.00	2.49	0.0001*
Group cohesion	Group	MBT	DBT	-3.30	1.61	0.04*
			Control	8.22	1.61	0.0001*
		DBT	MBT	3.30	1.61	0.04*
			Control	11.52	1.61	0.0001*
		Control	MBT	-8.22	1.61	0.0001*
			DBT	-11.52	1.61	0.0001*
	Time	Pretest	Posttest	-2.75	1.26	0.03*
			Follow-up	-4.41	1.22	0.001*
		Posttest	Pretest	2.75	1.26	0.03*
			Follow-up	-1.66	1.35	0.22
		Follow-up	Pretest	4.41	1.22	0.001*
			Posttest	1.66	1.35	0.22

Discussion

The present study investigated the changes in therapeutic alliance and group cohesion in group therapy based on MBT and DBT and their correlation with reduction of the severity of symptoms in BPD after the intervention. Results of the studies indicated that therapeutic alliance and group cohesion were significantly related to positive psychotherapeutic outcomes.

Several studies have pointed to the effective role of therapeutic alliance in improving symptoms.[4, 7, 10-19] In the psychotherapy research, identifying specific factors that dynamically predict the outcomes is important.[36] Group members' perceptions of their alliance with the group leader and the group as a whole were positively correlated. Outcomes of the group experience were strongly related to the perceived strength of the working alliance. The more the group members reported strong working alliances, the more they tended to report they had self-disclosure in the group.[10]

There has been a lack of agreement about how to label the construct of alliance. Difficulties such as multiple labels have contributed to a lack of clear definition and the development of few reliable measures in research on alliance.[37] However, these results confirm the positive relationship between the alliance and outcome. This relationship remains consistent across assessor perspectives, alliance and outcome measures, treatment approaches, patient characteristics, and countries.[16]

Establishing therapeutic alliance also depends on the patient's ability to form a personal bond to the therapist, create goals, and understand the mutual tasks of therapy. There are relational problems in BPD such as hostility, insecure attachment, and disturbed epistemic trust.[1] Therefore, forming and fostering therapeutic alliance in such circumstances is important to outcome treatment.[3]

Research focusing on the mechanisms of change in psychotherapy has emphasized qualities of the

therapist-patient dyad. A therapist's ability to form and maintain a therapeutic alliance (goals, tasks, and personal bond) is considered as a predictor of outcome in psychotherapy.[3]

Therapeutic alliance is the typical common factor shared by nearly all psychotherapies. Regardless of the therapeutic approach used, therapeutic alliance was the most important factor affecting the outcome of the treatment.[39] The situation may be more complex in the context of group therapy where alliance may be strengthened when a client witnesses a group member's experience of symptomatic change.[11] Several studies have pointed to the effective role of therapeutic alliance in improving symptoms.[9, 10, 22-25] However, the results of some studies were inconsistent with some others.[38]

Cohesion is a more complex component. It encompasses not only the patient's relationship with the therapist, but additionally the patient's relationships with the other patients, and the patient's relationship to the group as a whole. In fact, the literature contains multiple and divergent definitions of cohesion in the absence of any unifying theoretical or empirical foundation.[37]

The quality of the client–therapist alliance is important for positive outcomes and this alliance is independent of group cohesion.[40] It is expected that negative transmissions should not be transferred to the group as a whole. During the treatment, focus is initially on cohesion and later on making change possible and this might create a dilemma; the homogeneity that initially creates cohesion may also act as a restraint on change. Therefore, forming homogeneous groups at the beginning of treatment not only has particular benefits, but also increases the risk of negative consequences though stereotyping later in the process might also be relevant here.[9]

The results of the studies about the impact of group cohesion on the consequences of treatment are contradictory.[25] A method for studying the complex relationship between therapeutic alliance and group cohesion is examining the differences in their relationships with subsequent symptoms at multiple time-points over the course of treatment. Some important findings previously obtained regarding the therapeutic alliance and group cohesion with treatment consequences have generally been estimated based on a single assessment or mean value. Therefore, we may ignore fluctuations during the course of therapy. Contradictions in research results may be due to this point.[40]

As with all clinical studies, some limitations must be acknowledged. All three primary measures collected for this study, the WAI, GCS, and BPDSI, were self-reported. Also, in this study, fluctuations during the course of therapy were ignored.

Conclusion

This study indicates two important subjects in the relationship between psychotherapy processes and treatment outcomes. First, both therapeutic alliance and group cohesion make an important contribution to group psychotherapy outcomes although the influence of group cohesion may require time to establish. Second, therapeutic alliance and group cohesion are not static in psychotherapy processes, nor are their influences on outcomes temporally constant.

Each relationship element has been found to contribute to psychotherapy outcome., Therapeutic alliance and group cohesion has also been estimated to account for at least as much variance in psychotherapy outcome as specific therapeutic interventions.

Future research using more frequent assessments of therapeutic alliance, group cohesion and severity of symptoms will help clarify how to vary the length of the treatment process.

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Ethical Approval

The present study was derived from a thesis submitted in partial fulfillment of the requirement for the degree of PhD in Clinical Psychology approved by the Research Committee of Shiraz University of Medical Sciences (code of ethics: IR.SUMS.REC.1397.639).

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Authors' Contribution

Study concept and design: L K, N M, C R, SA D, Collection of the data: L K; Analysis and interpretation of the data: L K; Drafting the manuscript: L K; Critical revision of the manuscript for important intellectual content: N M; Statistical analysis: L K.

Conflict of Interest: None declared.

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