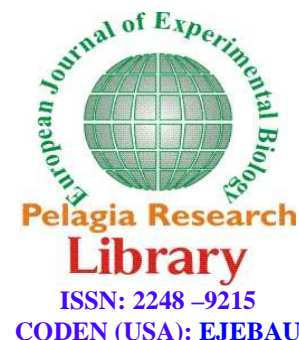




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The efficacy of intensive short-term dynamic psychotherapy on attention bias in depressed patients

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ABSTRACT

Recent studies suggest that depressed people have a bias towards the negative stimuli. In this regard, the study of intensive short-term dynamic psychotherapy (ISTDP) effects on attention bias in depressed patients was performed. The current research is experimental type. Pre test and post test design with control group that includes of two groups of depressed individuals. Statistical community was all individuals (women and men) 19 to 40 years who were diagnosed with depression during the year 2011-2012 were referred to the psychological clinic in Tehran, then after the screening by Beck depression inventory (BDI) and unstructured interview (DSMIV), a total of 32 individuals suffering from moderate to high depression (cut off point 21 and higher), 16 depressed patients were randomly selected. They were evaluated with 16 depressed patients in the waiting list were matched. Then cognitive neuropsychological test computer emotional faces Dot probe test in both groups were carried out (Once prior to intervention, and another one in the end of intervention). Data analysis was done using spss (20), in part of inferential statistics includes of one way multivariate analysis of covariance, two way multivariate analysis of covariance, for the mean of post- test groups and the variables in two groups were studied. The results showed that there is a significant difference between two groups in level of $P < 0/05$ in terms of response speed, So that the intervention reduced the rate of response to negative stimuli And also score in the experimental group were positive in Index of attention bias. These findings indicate that the intervention has a significant effect of the level of $p < 0/05$ to reduce the attention bias in the experimental group and avoided the negative stimulus. The findings have significant implications for the treatment of depression in attention bias of these individuals.

Key words; Depression, Attention bias, Intensive Short Term Dynamic Psychotherapy

INTRODUCTION

The carried out longitudinal studies in three decades show that depressed patients have got cognitive bias including deficiencies in cognition control, attention bias, representation and memory processes [6]. The bias and the lack of cognitive function affects the regulate emotion and emotional states can be affected increasing these disorders potentially [12].

The recent studies have shown that the deficit in the emotional regulation is not only the feature of depressed people, [2] but also it can be appeared due to the recovery of the disorder [11]. The depression is along with the attention to negative stimulants problems, the lack of inhibitory control and memory bias. The whole of these abnormalities can impact on the emotion regulation strategies so that the ability of forgotten of situational cues causing to the emotional arousal or quick release of these cues play key role in the prevention of beginning the emotions and regular respond to the emotion [11]. The emotional faces a social stimulus with strong effectiveness are related to attention bias [8, 26]. The stimuli of emotional faces are applied in anxiety and depression but in anxiety attention bias to threatening data such as fury at face can happen. While in depression attention to positive and negative information such as happy or sad appearance can take place [14].

The courage of the patients trying to talk about their feelings has shown the ineffectiveness of changing their behavior [21]. Therefore, the main factor is subjected to the physical experience of feelings in the body [17]. Due to this issue Intensive Short Term Dynamic Psychotherapy (ISTDP) is considered as the therapy that assist patient to solve the problems and confront with his or her unconscious emotions or objections. These objections and emotions are originated from psycho trauma which occurs in people's lives [23, 20]. Hence, these emotions may become more active due to stressful events at daily life provoking anxiety and defensive mechanisms and finally these may lead to depression, somatization, self defeating patterns and interpersonal problems [23, 20]. The therapy of Davanloo (ISTDP) is mainly focused on leveling the feelings into consciousness. During the process of therapy with this pattern the main aim of each session is to neutralize the defense against deep feeling experiences in therapist. The experience of these feeling seems to open the unconsciousness and assist to overcome the repressed memories from the past and any objections will be solved at each session [4]. Treatments having cognition base go often towards gradual orientation of the emotion. Even Aaron Beck (1976) the father of the cognition therapy has confirmed the role of emotional engagement for accessing to these success results. Only working with one of these cases (recognition or emotion) to access to a successful therapeutic case are not enough [3]. Clinically and research based background terms confirm high agreement towards this case that the most effective and efficient method for facilitating the change is subjected to an approach with two parts: The high emotional mobilize and the evaluation of thoughts, memories and beliefs depended on these sensations when patients and therapist make in their emotional relations. When the emotion is experienced and the memories come to the level in consciousness, the Perceptual distortions related to self and others get access [3]. Most attraction of Intensive Short Term Dynamic Psychotherapy methods have been originated by researchers like Mallan and Osimo, 1992, Davanloo, 1978, 1980, 1990. These obtained methods are subjected to the cognitive and emotional experience in each session is integrated and intertwined [3]. Thus therapists that facing and working with feelings experience and information processing related to emotions or Emotion-focused therapy [10] assist to the new structures of the cognition and observing the most successful. According to the theory of dual processing, people have two distinct processing systems including explicit system which applying conscious process evolving the efforts cognition struggle (controlled) or (effortful) forms of emotion regulation and implicit system including automatic process (unconscious) or (automatic) forms of emotion regulation an integration of explicit and implicit systems are necessary for well-being [5].

Beevers (2005) believes that depression take place when the implicit processing becomes negative bias by explicit processing uncorrected leading to negative recognition and increasingly sadness and lead towards depression [1]. The results of Phillips et al (2010) meta-analysis study showed that the implicit cognition with negative bias is along with depression and it may represent the risky factors in the beginning of vulnerable and relapse of the depression disease. As a result, the efficacy of the treatment may be upgraded due to the use of approaches considering the implicit processes. The Continuous struggle for the prevention of entering the memories into the consciousness may damage in the recalling section [22]. Also the results of study Murrough et al (2011) indicated that the implicit cognition educational intervention is directly effective in the cognitive processing abnormalities and neurotic changes in relation to depression. This kind of non-drug intervention can be applied with or without pharmaceutical as a unit treatment will be used in future [19]. Since the attention and processing of the information in depressed people are out of consciousness field, the implicit cognition educational approach is a suitable indirect intervention. According to the above-mentioned background and since depression is the most common sign of psychology and based on global health organization the depression is the second threatening disease after cardiovascular disorders up to 2020 [15]. Clinically, and particularly the aspects of discriminative in this disorder as new categories help to strategies and methods and different approaches of the present therapy according to the features of the disorder. Also, due to the purposes of the evaluations to clinical Neuropsychological collect the patients information clarifying the Risk Factors of depression and prevention of relapse is important for clinical interventions, Despite numerous findings on attention bias in depressed individuals the effectiveness of ISTDP methods never cared at all;

hence due to the lack of researches, the present study has been done in this field; The research question is that whether the treatment can be effective on attention bias in depressed individuals?

MATERIALS AND METHODS

The present study is of experimental type. The pre and post tests with control group of two subject groups (depressed individuals) were consisted in the study. Statistical community of the recent study includes the whole individuals (male and female) ranging from 19-40 year old with depression who referred to a clinic in Tehran during 2011-2012; then after the screening by Beck depression inventory (BDI) and unstructured diagnostic interview (DSMIV) were carried out, and a total of 32 individuals suffering from moderate to high depression (cut off point 21 and higher), 16 individuals were randomly selected and 16 other patients waiting in the list were evaluated; then , Computer based of Dot- probe (emotional faces stimuli) test were preformed in both groups; first before intervention and then at the end of intervention in both of them.

Research tool

1. Beck Depression Inventory (BDI): This test has been developed by Beck and his colleagues. The test evaluates emotional, motivational, physical and vegetative symptoms as well as recognition symptoms. Using Spearman-Brown formula, Beck reported the test validity as 0.93. This questionnaire has 21 questions with four multiple answers for each question. The examinees were requested to draw a circle around the answer that described their feelings better in that week. Fata (1991) has reported the correlation coefficient between BDI and the Hamilton Depression Test for Iranian examinees as 0.66. Validity and reliability of the test in the healthy and clinical population of the test was proved by a study conducted in Rouzbeh Hospital affiliated to Tehran University of Medical Sciences [13].

2. Modified dot-probe test of emotional faces: This is the modified version of the original test [16]. Sad and happy faces of Nim Stim data bank [25] were used as stimuli. Emotional faces and star (*) were presented in two rectangles that were placed 2 centimeters from the central fixation point of the monitor. The examinee was put 50 centimeters from the computer. Firstly the empty rectangle and the fixation point (+) were presented for the period of 500 ms. Then two faces were shown on the left and right side of the monitor fixation point for a period of 500 ms. The examinee had to use the arrows of the keyboard to show direction of the star. The computer recorded the response with the reaction time up to 1 ms. the test was administered via a lap top. The total of correct responses (accuracy) and the average time used for responding to the questions (reaction time) in each of the presentation manners (congruent and incongruent) were calculated separately. The index of attention bias is calculated by subtracting reaction time of the examinees when the star is directed toward the face from their reaction time when the star shows the incorrect direction.

The interference completion program: (Intensive Short Term Dynamic Psychotherapy):

Questioning step:

An accurate interview focuses on patient's problem and given details and clear question sophisticated from caregiver.

Purpose: determining patient's accurate problem facilitating recall time and emotion challenge.

Pressure step: focus on feelings, pressure in relation to feelings experience.

Purpose: appearance of defends, emergence of transformational feelings, resistance

Challenging step: emergence of defend, determination of defends, clarifying defends. Suspicious in defends, defend consequences, challenging and facing with defends.

Purpose: familiarizing and recognizing the application of defends and motivating patient against the disease.

Transformational resistance step and its direct challenge:

Determining verbal signs particularly transformation non-verbal and using direct challenging techniques.

Purpose: calling for therapy contraction against anti-resistance and overcoming on any therapy failures and emphasizing on patient's closeness to caregiver.

Direct accessibility to unconsciousness:

The direct experience of transformational experience and penetrate into it and experience three elements of the excitement are necessary for the excitement experience (cognition, psychological, movement-behavior).

Purpose: facilitating patients to experience and respect his or her excitement moods due to touching transformational feelings (mainly family members and childhood interactions).

Transformational or representative analysis step:

Making relationship and analyzing similarities between patients' pattern to others in present life and the past.

Purpose: patient's attitudes towards defends in a person's pyramid (person's reactions at present life, relation to caregiver, patient's past relations) and systemic analysis in two triangles of person and objection.

Dynamic seeking step in unconsciousness:

Search at present life and patients past using systemic analysis and two triangles, dynamic questions from caregiver for clarifying patient's disease.

Purpose: confronting with awful feelings without transformational feeling motivation, frequent penetration in unconsciousness [9].

RESULTS

Table 1: attention bias description indicators in steps and groups of under study (Dot-probe test of emotional faces)

Group/index Variable/step		Experimental				Control			
		Mean	Deviation	Max	Min	Mean	Deviation	Max	Min
Incongruent speed	Pre test	13.02	6.73	32.71	4.91	11.89	2.88	16.91	7.02
	Post test	7.38	2.03	10.89	4.39	5.97	2.52	13.67	3.44
Congruent speed	Pre test	6.88	1.27	9.27	5.06	10.21	3.37	15.33	4.69
	Post test	8.04	4.21	16.38	3.17	9.30	3.76	17.42	4
Incongruent accuracy	Pre test	9.69	0.70	10	9	9.81	0.40	10	9
	Post test	9.75	0.45	10	9	9.81	0.40	10	9
Congruent accuracy	Pre test	10	0	10	10	9.31	1.08	10	8
	Post test	9.63	0.72	10	8	10	0	10	10
Index of bias attention	Pre test	-6.14	6.87	0.97	-26.94	-1.68	4.19	2.37	-9.87
	Post test	0.65	5.12	9.04	-6.95	-3.33	3.39	11.86	-0.11

As shown in the above mentioned table, in pre test the experimental group has been left without any changes than post test of speed and accuracy in response to be decreased in congruent stimuli and increased in incongruent stimuli of speed. Also, the score of attention bias index is increased in experimental group positively.

Table 2: the covariance analysis between groups in two-way of multi-variations for attention bias (dot-probe test of emotional faces)

Variable	Degree	F(2&57)	Sig level	Size of the work
Number of correct responses(accuracy)- pre test	0.98	0.53	0.59	0.02
Reaction time (speed)- post test	0.99	0.15	0.86	0.005
Group	0.94	1.71	0.189	0.06
Representation (congruent-incongruent)	0.92	2.46	0.095	0.08
Group*representation	0.90	3.22	0.047	0.10

Note: the proportions of F have been obtained from Wilks Lambda statistical characteristics.

According to the above table and F significance and type of given images in $p < 0.05$ level, it is specified that there is a significant difference between scores of pre test of both group. To clarify the topic we will carry out the effects between the subjects.

Table 3: Effects between subjects

Source	Dependent variable	Total squares	Degree of freedom	Squares	F	Sig level	Size of work
Group	post test accuracy	0.69	1	0.69	3.05	0.09	0.05
	post test speed	0.36	1	0.36	0.03	0.86	0.001
Representation	post test accuracy	0.04	1	0.04	0.16	0.69	0.003
	post test speed	43.61	1	43.61	4.08	0.05	0.07
Group* representation	post test accuracy	0.29	1	0.29	1.29	0.26	0.02
	post test speed	39.40	1	39.40	3.68	0.05	0.06
Error	post test accuracy	13.16	58	0.23			
	post test speed	620.78	58	10.70			
Total	post test accuracy	6157.00	64				
	post test speed	4493.79	64				

According to the table and significant of F related to group interaction and given at $p < 0.05$ level in speed elements it is specified that after removing the pre test effect there is a significant difference between given images in terms of speed at $p < 0.05$ level. Referring to the mean degrees indicate that this difference is due to the decrease of experimental group speed in response to assimilate images in pre test. According to the size of the work, it is specified that 6% of speed score variance has been determined by the therapy in post test in experimental group. By the use of Cohen guidelines the degree of the related works and the effectiveness of therapy show the attention bias in this regard. In order to evaluate the therapy effectiveness, the dot probe test index was used due to a categorization independent variable at both sides (control and experimental groups) and an independent variable (score of attention bias index in pre test of dot probe test) used the inter group covariance (ANCOVA). The preliminary studies were considered to be ensuring about the applied conditions in the test. The results were represented in continue.

Table 4: The analysis of covariance between inter group of single variation for the index of attention bias (dot probe test of emotional faces)

Source	Total squares	Df	Squares	F	Sig	Size of work
Pre test	36.52	1	36.52	1.99	0.17	0.05
Group	86.27	1	86.27	4.72	0.038	0.14
Error	530.21	29	18.28			
Total	751.13	32				

According to the significance of F in $p < 0.05$ level, it is specified that after eliminating the pre test effects, there is a significant difference between both groups that due to the increase and positivity of the score in the post test, it may happen in the experimental group in this regard. Since the positive score representing the avoidance of excitement appearance in attention bias and the negative score showing to be alarm about life (sensitivity), therefore it is specified that the positivity of the score in post test of the experimental group represents the avoidance of experimental group from excitement appearance in post test. The size of the related effect shows that 14% changes in the score of post test is being represented by treatment. The size of the related effect is big indicating the high potential effectiveness of the related treatment in this regard.

DISCUSSION AND CONCLUSION

This study has been done in terms of achieving the effectiveness of short term dynamic psychotherapy on attention bias. The findings of table 2 and 3 to evaluate the attention bias than emotional faces indicated that there is a significant difference between both groups at $p < 0.05$ level in the field of response speed. Referring to the mean degrees (table 1) show that this difference is due to the decrease of respond speed to assimilated pictures in experimental group. The main aim of congruent and incongruent is that when two pictures appear on the display and then their remove make stars emerging on the screen. In congruent state, if the time of reaction gets high, it is showing the lowest attention and in the related state if the reaction time gets low indicating the highest attention. Along with these finding in the present study, the speed of response time gets decreased to congruent stimulants after intervention. This finding is in line with the following researches in terms of emotion therapy [10, 22, and 19]. It seems this method facing and working with feelings experience and information processing related to emotions assist to the new structures of the cognition. According to the theory of dual processing in this therapeutic method by the effectiveness on facilitate implicit cognition through emotion processing (emotion experience to access

unconscious) and engaging explicit cognition and implicit cognition systems the data processing gets better and it seems that depressed people little

Apply the negative recognitions; also the use of imagery is a way to experience the emotion of this method for treatment patients. When the emotion is experienced and the memories come to the level in consciousness, the Perceptual distortions related to self and others get accessed. Other representation can be pointed to the amygdale in terms of Neurological issues for making positive of attention bias index. The stimuli provoking emotionally should be considered as prior and the impact of amygdale show the most memorizing emotional events in this case. Therefore, when the processing emotion is being done by the therapy, it seems that the limbic system activity gets lower; in the other hand, due to the role of patient's defenses making the patient away from emotions to consciousness and stopping perceptual-cognitive processing is referred to the forehead lobe and central inter amygdale and brain lobe [24]. When the defensive obstacle is broken by this therapy method, the speed of cognition and perception and finally the result of information processing get high making the activity of forehead lobe better; so, due to the amygdale activity decrease and increase activity of forehead lobe increases not only the activity of response speed but also the negative stimulants and congruent with mood get little Triggers; hence, It causes decrease from attention to negative stimulants.

Limitations of this study include: the lack of classification of the severity of depression in individuals. The lack of research literature in this area (especially types of therapy), and Lack of efficacy of this method were not carried as a long-term follow-up.

REFERENCES

- [1] Beevers CG, *J Clinic Psych Rev*, **2005**, 25, 975–1002.
- [2] Clark LA, Watson D, *J Abnor Psych*, **1991**, 100, 316–336.
- [3] Della Sellva PC, *Intensive Short-Term Dynamic Psychology*, London, UK, **2004**.
- [4] Della Sellva PC, *Lives Transformed, A revolutionary method of dynamic psychology*, **2007**.
- [5] Evans J, *J Ann Rev Psych*, **2008**, 59, 255–278.
- [6] Everaert J, Koster EHW, Derakhshan N, *J Clinic Psych Rev*, **2012**, 32; 413-424.
- [7] Fata L, MA thesis, Tehran psychology institution, (Tehran, Iran, **1991**).
- [8] Fox E, Rausoo R, Dutton K, *J Cognition Emotion*, **2001**, 16; 355-379.
- [9] Ghorbani N, *Intensive Short Term Dynamic Psychotherapy*, SAMT publication, **2010**.
- [10] Greenberg LS, Watson J, *Emotion-focused therapy of depression*, Washington, DC, **2005**.
- [11] Gotlib HI, Joormann J, *J Ann Rev Clinic Psych*, **2010**, 6; 285-312.
- [12] Joormann J, Yoon KL, Siemer M, *J Emotion Regul Psychopath*, New York: Guilford; p. **2009d**, 174-203
- [13] Kaviani H, Mousavi Ashraf AS, Mohit A, Interview and psycho test, Tehran, **2001**.
- [14] Koster, EHW, Leyman L, Raedt RD, *J Person Individ Differe*. **2006**, 41; 329-339.
- [15] Lopez AD, Murray CJL, *J Nature Med*, **1998**, 4(11), 1241–43.
- [16] Macleod C, Mathews A, Tata P, *J Abnor psych*, **1986**, 95; 15-20
- [17] Malan D, DellaSelva PC, *A Revolutionary Method Dynamic Psychotherapy*, London, **2007**.
- [18] Marroquin B, *J Clinic Psych Rev*, **2011**, 31, 1276-1290
- [19] Murrough JW, Lacoviello B, Neumeister A, *J Neurobio Learn Mem*, **2011**, 96(4), 553-563
- [20] Nebraska JR, *The collected writings of Robert J. Nebrosky*, USA, **2010**.
- [21] Pennebaker JW, *Opening UP, The Healing Power of Confiding in others*, New York, **1991**.
- [22] Phillips WJ, Hine DW, Thorsteinsson BE, *J clinic psych Rev*, **2010**, 30, 691-709.
- [23] Ten Have – de Labije J, *The collected writings of Josette ten Have-de Labije, PSYD*, USA, **2010**.
- [24] Ten Have-De Labije, J. Neborsky, R.J. *Mastering Intensive Short-term Dynamic Psychotherapy: A Roadmap to the Unconscious*. London: Karnac press, (**2012**).
- [25] Tottenham N, Tanaka J, Leon AC, McCarry T, *Psych Res*, **2009**, 168, 242-249.
- [26] Vuilleumier, P., & Schwartz, S. Beware and be aware: Capture of spatial attention by fear-related stimuli in neglect. *NeuroReport*, (**2001**). 12, 1119–1122.