On the Effectiveness of Group Cognitive-Behavioral Therapy on Aggression in Addicts

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Abstract

Objective: This study aimed to investigate the effectiveness of group cognitive-behavioral therapy on aggression among addicts. **Method:** A quasi-experimental design along with pre-posttest stages, control group, and follow-up was employed for the conduct of this study. The number of 24 addicts referring to rehabilitation clinics in Tehran was selected as the sample size of this study via convenience sampling method in accordance with the inclusion criteria. These participants were randomly assigned to experimental and control groups. In this study, Buss-Perry Aggression Questionnaire was used for data collection purposes. **Results:** Data analysis showed that group cognitive-behavioral therapy reduces verbal and somatic aggression, anger, and hostility in addicted people. However, this therapy only led to the reduction of verbal aggression, anger, and hostility in addicted people. **Conclusion:** Since aggression has a high comorbidity with substance abuse, this factor can be as an obstacle to withdrawal. Therefore, it must be considered in addiction treatment.

Keywords: Addiction, Group Cognitive-Behavioral Therapy, Aggression

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Introduction

Human beings in various cultures have always had the tendency to change their psychological states throughout different eras of history. Therefore, they would use narcotic and psychotropic drugs resulting in substance addiction, which is now one of the most fundamental crises of human life. The explosion of drug abuse during the past century has been a growing concern for all societies (Lundholm, 2013). Drug addiction and substance abuse are among the most prevalent socio-psychological traumas, which can easily jeopardize familial, individual, and cultural bonds of a country and endanger human dynamics (Shariati, Izedikhah, Molavi & Salehi, 2013). Drug addiction is a psycho-physiological phenomenon with different factors affecting its occurrence, continuation, and treatment. Since the addicted person gets both mentally and physically involved, they cannot handle it by themselves (Keane, Reaper-Roynolds, Williams & Wolfe, 2006). Some research findings have indicated a strong positive relationship between aggressive behavior and substance addiction. This relationship is so strong and deep that it is undeniable. However, before any discussion concerning this relationship, the concept of anger and aggression must first be defined Fauziah, Mohamad, Chong & Abd Manaf). Among emotions that are purposeful social, biological, and mental phenomena, anger and aggression are of great importance in human life. Anger is a common emotion, which is experienced as an unpleasant internal one in daily life as defined according to its degree of intensity. The state of anger or aggression is often determined by wrong perception or thoughts and increasing tendency to express culturally inappropriate behaviors and movements (Lundholm, 2013; Rahimi Ahmadabadi, Agha Mohammadian Sherbaf, Modares Gharoy, & Karshki, 2014; Valizadeh, Berdi Ozouni Davaji & Nikamal, 2010; Deffen Bacher, 2011). In an investigation, Buss and Perry concluded that human aggression has three dimensions of instrument, emotion, and cognition. The instrumental dimension or dimension of movement display physical or verbal aggression and its main purpose is to hurt others. The affective or emotional dimension refers to the internal conditions of organisms as well as emotional and physiological impulsiveness. This dimension, which is displayed as anger, is responsible to prepare and predispose aggressive behavior. Finally, the cognitive dimension is called hostility and causes one to bear feeling of prejudice and malice towards others (Diamond, Wang & Buffington-Vollum, 2005). Therefore, human aggressive behavior is rooted in an overall structure. This structure can be realized as anger, hostility and somatic aggression and verbal aggression. The dimensions of the field aggression as mentioned above can provide a background for a variety of psychological and physical damages (Rahimi Ahmadabadi, et al., 2014). Research findings showed that aggressiveness is an indicator of some disorders such as addiction to drugs and is among closely related factors to addiction (Hvakn & Stewart, 2003; Habil, et

al., 2010), which has now made governments spend great expenses to fight substance addiction(Mehrabizadeh Honarmand & Fathi, 2008). Therefore, since the expenses as well as individual, social, and economic damages of drug abuse are so great throughout the world, an economical method of treatment must be proposed and examined (Momeni, Moshtagh Bidokhti & Poorshahbaz, 2009) so that it would be effective for both the treatment of drug addiction and factors like aggression that come along with it. Cognitive-behavioral treatment is among non-medical treatments used to cure drug addiction. In studies like Khayatipoor, Ghorbani Shiroodi & Khalatbari (2010); Marlatt & Range (2008); Mchugh, Hearon & Otto (2010), this method of treatment has been proved to be of clinical effectiveness. In addition to its effectiveness in drug addiction treatment, cognitive-behavioral approach has been efficient in handling anger and aggression as by-products of drug addiction. Different research studies such as those obatained by Rezaee, Eftekhari, Dolatshahi & Masafi (2014); Qutaiba (2010); Shekoohi Yekta, Parand & Zamani (2010); Hofman, Asnaani, Vank & Sawyer (2012); Gorenstein, Tager, Shapiro, Monk & Sloan (2007); Rose (2010); Daunic, Smith, Brank & Penfield (2006); Gonzalez-Prendes (2007); Barnes, Smith & Miller (2014); Ozabaci (2011) have also demonstrated that cognitive-behavioral approach is effective in substance addiction. The mechanism of this approach is to reduce and even control anger and aggression along with a cognitive reconstruction (Kazemini, Ghanbari Hashemabadi, Modares Gharoy & Eamaeelizadeh, 2011).

As mentioned above, considering the strong relationship between drug addiction and aggression, and the fact that the phenomenon of addiction is the most serious disaster during the century, we figure out that addiction to drugs not only does have financial costs but also it can have a lot of serious consequences on all aspects of individual life (Momeni, et al., 2009). By taking a statistical view on growing number of people involved in drug addiction, especially among youth as well as young adults, we conclude that the nation's youth who could otherwise be playing their important part in improving or developing the society are now ruined due to drug addiction (Fathi & Mehrabizadeh Honarmand, 2008). As a result, some intervening action must be taken in this regard. Such intervention should be multi-dimensional, taking psychological factors into account. Thus, the present study aimed to tap into the following main question:

Is the cognitive-behavioral an effective method of treatment in curing addicts' aggressive behavior?

Method

Population, Sample, and Sampling Method

As the nature and aims of this investigation were demanded, a quasi-experimental design along with pre-posttest stages, control group, and follow-

up was employed for the conduct of the present study. The number of 24 addicts referring to rehabilitation clinics in Tehran was selected as the sample size of this study via convenience sampling method in accordance with the inclusion criteria. These participants were randomly assigned to experimental and control groups, each group containing 12 subjects. Male subjects ranging between 20 to 24 years of age with degrees of high school diploma to Bachelor's degree and a medical record of methadone use over a month were qualified to meet the inclusion criteria. Participants who failed to attend treatment sessions or suffered from severe psychological disorders were excluded from the study.

Instrument

Buss-Perry Aggression Questionnaire was developed by Buss and Perry. The original version of this questionnaire included 52 items, which was reduced to 29 items by factor analysis since the removed items were either faulty or weak. A 7-item Likert scale ranging from 'not true of me' to 'very true of me' was used to score the questionnaires. The above questionnaire measures four dimensions including somatic aggression, verbal aggression, anger, and hostility. Cronbach's Alpha for each dimension was found to be .85, .72, .83, .72 respectively. Cronbach's Alpha for the whole set of items has been reported to be .89 (Naghdi, Adib Rad, & Nooranipoor, 2010). Samani (2007) claimed that Cronbach's Alpha was .83, .79, .77, and .70 for anger, aggression, displeasure, and suspicion respectively. Najarian and Allahyari reported Cronbach's Alpha of .85 for the total items (cited in Naseri & Babakhani, 2014).

Procedure

First, the number of 24 addicts referring to rehabilitation clinics in Tehran was selected as the sample size of this study via convenience sampling method in accordance with the inclusion criteria. These participants were randomly assigned to experimental and control groups. Subjects in both groups completed Buss-Perry Aggression Questionnaire as a pretest. Then, the experiment group was exposed to the independent variable. The treatment included a program in which they managed their anger and stress following a cognitive-behavioral approach (Raili & Shop Shire Translated by Nasiri, 2003) as well as a practical stress-management program (Mac Tamara, Cited in Janbozorgi & Rogers, 2009). The treatment was done in 8 sessions, each taking 45 minute. After the treatment, Buss-Perry Aggression Questionnaire was administered to both control and experiment groups as posttest. The following table summarizes treatment sessions:

Table1. A Summary of Treatment Sessions

Sessions	*Content of Sessions*
First	Introduction of group members and regulations, defining anger, explaining wrong beliefs about anger, and administering tests
Second	Explaining events that provoke anger, physical, behavioral, emotional symptoms of anger, and cognitive image of anger; identifying factors that provoke anger, performing stress removal based on Benson's method, break and gravity, assigning homework
Third	Checking homework, a course on controlling anger, pause and relaxation, negative self-representation and an analysis of its reasons, assigning homework
Fourth	Checking homework, explaining periods of aggression, anger symptoms, break and gravity, guided image, discussions and exchange of ideas, and assigning homework
Fifth	Checking assignments, aggression periods, growing relaxation of muscles, discussing proposed points, thought interruption, and assigning homework
Sixth	Checking homework, discussing proposed points, teaching Albert Ellis's model of ABCD, exercising decisiveness as well as self-esteem and self-respect, assigning homework
Seventh	Checking assignments, reviewing learned materials, investigating the relationship between sharing work and decisiveness, training participants on how to pluck their courage, the model of solving conflicts, break and gravity, and assigning homework
Eighth	Evaluation, review of proposed points, familial anger, discussion and exchange of ideas, test administration, break and gravity, improving concentration, conclusion of all sessions

Results

The following table shows the results of descriptive statistics calculating the variables under investigation classified according to type of groups and tests used.

Table2: Descriptive Statistics of Aggression Classified Based on Group and Test Types

Groups	*Experimental*						*Control*					
Variables	*Pretest*		*Posttest*		*Follow-Up*		*Pretest*		*Posttest*		*Follow-Up*	
	M	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Physical aggression	29.75	5.98	18.00	5.06	21.33	7.37	27.00	6.70	26.66	8.55	27.91	6.40
Verbal aggression	18.00	4.00	9.83	2.58	11.50	3.52	15.83	4.32	18.58	4.44	17.33	4.39
Anger	27.83	3.92	16.66	3.70	15.75	6.56	24.75	5.94	23.83	6.50	22.91	7.52
Hostility	24.08	4.39	21.91	6.76	15.33	4.71	24.91	5.93	25.58	5.97	26.50	7.65

To measure the effectiveness of cognitive-behavioral treatment on aggression, Analysis of Covariance (ANCOVA) was used. One of the assumptions of this method is the equality of covariance matrix, which was checked against Box's

test. The result of the above test showed that this assumption was not violated (Box M=15.o4, F=1.20, P>.o5). Another assumption of ANCOVA is the homogeneity of error variance, which was measured against Leven's test. The results of this test also showed no violation of the above assumption. Somatic aggression (F=2.13, P>.05), verbal aggression (F=.04, P>.05), anger (F=1.41, P>.05), hostility (F=.48, P>.05). Results of Multivariate Analysis of Covariance (MANCOVA) indicated that there was a significant difference (Wilk's Lambda =.164, F=19.16, P<.001).To identify a difference pattern, Univariate Analysis of Covariance was used.Table3 presents the results of the analysis:

Table 3: Results of univariate analysis of variance for different patterns

variables	*Sum of squares*	*Degrees of freedom*	*Mean Square*	*F Statistics*	*Sig.*
Somatic aggression	516.42	1	516.42	20.05	.00٠5
Verbal aggression	328.29	1	328.29	40.95	.00٠5
anger	383.72	1	383.72	23.69	.00٠5
hostility	44.91	1	91.۴۴	2.45	.00٠5

As shown in the above Table, there is a significant difference among somatic and aggression, anger, and hostility between groups. Therefore, according to descriptive and inferential statistics, we conclude that cognitive-behavioral method of treatment is effective in reducing aggression.

To examine the differences in the follow-up (stability in effectiveness) an analysis of covariance was used. Box's Test did not show any serious violation of assumptions (Box M=6.93, F=.55, P>.05). Leven's test did not show any violation of the homogeneity of error variance assumption (F=.72, P>.05), somatic aggression (F=.24, P>.05), anger (F=.24, P>.05), hostility (F=.23, P>.05). Multivariate analysis of variance showed a significant difference (Wilk's Lambda=.302, F=8.65, P<.001). To examine patterns of difference, univariate analysis of covariance was used as below.

Table 4: Results of univariate analysis of variance for patterns of difference in follow-up

Variable	*Sum of squares*	*df*	*Mean Square*	*F Statistics*	*Sig.*
Somatic aggression	153.38	1	153.38	4.008	.061
Verbal aggression	172.003	1	172.003	13.620	.002
Anger	294.98	1	294.98	10.420	.005
Hostility	611.50	1	611.50	35.454	.001

According to the above table, there is a significant difference among verbal aggression, anger, and hostility between the groups examined in the follow-up period. That is also able to be stable after cessation of treatment.

Discussion and Conclusion

The aim of this study was to investigate the effectiveness of Cognitive Behavioral Group Therapy on Aggression among addicts. The results showed that cognitive-behavioral group therapy is effective in reducing aggression. This finding is consistent with the findings of Razaei, et al. (2014); Barnes et al (2014); Hoffman et al. (2012); Avzabaky (2011); Qutaiba (2010), Shokoohi Yekta, et al. (2010), Rose (2010); Gonzales Prendez (2007). The researchers concluded that cognitive-behavioral therapy, individually or in groups is effective in reducing aggression. In cognitive-behavioral therapy, a variety of techniques are used in which behavioral techniques manly include strategies to avoid stimulating situations or to change responses in order to give new ones to such stimuli. When addicts are experiencing severe anxiety, using muscle relaxation techniques instead of using drugs and providing appropriate reinforcement are among other effective techniques in treatment. By using cognitive techniques, the client will be able to identify thoughts that lead to drug use, recognize ill thoughts and replace them with appropriate ones. By these techniques, clients are also taught to look at the relations and situations through a different perspective. Cognitive skills are taught to help individuals reflect on the consequences of their aggressive behaviors and express such behaviors less aggressively and more properly. Therefore, this way they will be able to bring less physical harm to themselves and others (Momen, et al., 2010; Mc Guire, 2008; Fung, Gerstein, Chan & Hutchison, 2013). In cognitive-behavioral approach to anger reduction, we try to help people make fairer judgments of the world around them. Besides, they are also trained to respect and consider other's point of view. Therefore, we try to teach them social skills that can help them make these changes and reduce the anger-provoking situations. This treatment benefits from anger control training to aid individual control their capabilities to deal with the situations that raise anger and outrage. Moreover, this approach offers moral reasoning by which individuals are able to control anger. Moral reasoning involves a set of procedures designed to raise the level of fairness, justice, and consider the needs and rights of others (Thigpen, Beauclair, Keiser, Guevara & Mestad, 2007; Kaunitz, Andershed, Brannstrom & Smedslund, 2010). To illustrate the effectiveness of cognitive-behavioral therapy in reducing aggression, we can say that cognitive-behavioral therapy has been designed based on rich traditions of behavior modification and rational-emotional method of treatment which takes into account the individual's social cognition and construction of the real world. According to Ellis, most emotional and behavior problems associated with their emotions are rooted in irrational statements they make when faced with unpleasant events. Those who treat unpleasant circumstances against their will with an unreasonable and illogical act, will call any little incidence a disaster and they suggest to themselves that these events are too unpleasant to handle or tolerate. It must be said among the different

approaches of the past two decades, anger management, cognitive-behavioral approach have been welcomed by the majority. Cognitive theory is based on the essential connection components of thinking, feeling and behavior. Therapists' purpose of raising awareness of the early signs of hostile arousal is training self-control techniques to reduce the possibility of aggressive behaviors. An anti-social Aggressive behavior may be influenced by prior knowledge of events such as hatred (like recalling an old grudge), ignorance of the potential consequences of aggressive actions, or mental inability to solve problems (which could otherwise be expressed as an automatic externalization of such emotion rather than aggression) (Ghanavati & Nisi, 2010; Beck & Fernands, 1998). Anger usually arises from muscle tension and arousal of autonomic nervous system and activity of tiny glands in body as well as irrational beliefs about others. Interpersonal and social problems, tendency to violence and multiple physical and mental illnesses can be caused by anger. Cognitive-behavioral approach promotes reduction of the negative automatic thoughts, reduced use of cognitive distortions along with increased use of objective understanding of the events and the logic correctly and efficiently, and finally the use of behavioral techniques to reduce the amount of anger in people. One of the cognitive skills that are taught in this treatment is the skill of problem solving which we can resort to control anger. Problem-solving is an important part of each and every individual's daily life and is considered as the highest level of learning activities. Problem-solving skills offer steps that provide the conditions for the actualization of an adaptive response to social situations and enable people to look at an issue from different perspectives to find the appropriate solutions (Ebrahimi, Sadri, Yosefvand, Feili, & Piralikheir Abadi, 2013; Rahimi et al., 2014; Razaei, et al, 2014). In cognitive-behavioral therapy, changing wrong thoughts and beliefs is the most direct way to change wrong emotions and misbehaviors in clients. So in this approach the clients become aware of the impact of cognition on their feelings and behavior. They learn to identify their negative automatic thoughts and logical errors in anger provoking situations, and to recognize the main negative schemas of their anger using the method of vertical arrow. They also learn to restructure their schemas through empirical study and an analysis of negative beliefs in such a way that they note beliefs contrary to these negative and interpret them differently. As a result of changing dysfunctional schemas and cognitive restructuring, experiencing the emotional arousal of anger will be rare or to some extent reduced. In addition, the use of behavioral techniques like guided imagery relaxation techniques, supplying the hierarchical order of anger, conceptual change and, emotional arousal of anger will be reduced as well (Kazemeini, et al., 2011). Group cognitive-behavioral therapy is based on the assumption that cognitive distortions and defects are not innate and are acquired or learned features. Therefore, this therapy is trying to understand and analyze the selection and thought processes immediately before aggressive behavior. This procedure also implies that the reconstruction of

personal remarks will lead to equal reconstruction against his behavior. In fact, changing the negative schemas and cognitive restructuring that has led to the reduction of experienced emotional arousal reduces the possibility of expressing anger through aggressive behavior. According to Beck's cognitive view, cognition plays an important role in psychological problems. Beck believes that other aspects such as emotional, behavioral and physiological ones come from the factor of cognition. Cognitive changes in cognitive-behavioral approach asserts that people learn logical reasoning skills to resist their automatic thoughts (Kazemeini, Ghanbari-e-Hashem-Abadi, & Safarzadeh, 2013; Lipsey, Landenberger & Wilson, 2007). Overall, results of this study showed that cognitive behavioral therapy is effective in reducing aggression. Given the high simultaneity of substance use with this disorder and that aggression can be used as an obstacle to the treatment of substance abuse, considering it seems necessary in the healing process. This research was conducted on a sex, i.e. only males. It is suggested that future research will examine this issue in both sexes. . In addition, due to the small number of participants, it is suggested that future studies be conducted with larger sample sizes and be compared and evaluated against other methods of treatment.

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