

Original Article

Effectiveness of self-compassion focused therapy on reducing self-harm behaviors in juvenile offenders of Tehran Juvenile Correction and Rehabilitation Center

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Abstract

Introduction Compassion-focused therapy was developed to aid individuals with high levels of shame and self-criticism

Methods: The research method was quasi-experimental study having pretest-posttest-follow-up (PPF) designs with control group. Statistical society of this research included all juvenile delinquents with self-harming behaviors resided in Tehran Correction and Rehabilitation Center in 2016. 44 self-harming juveniles (24 in experimental group and 20 in control group) constituted the studied sample. The Inventory of statements about Self-Injury, Klonsky and Glenn, (2009), was used for data collection in pretest, posttest and follow-up stage. After the pretest, the experimental group was treated using compassion focused therapy (CFT); this treatment program was held in eight 90-minute sessions twice per week. Due to the drop in subjects, 13 of the experimental group and 9 of the control group completed the questionnaire in follow-up stage). In order to analyze the data, covariance analysis was used in addition to descriptive statistical methods..

Results: The results of this research showed that CFT has been effective on reducing self-harming behaviors of delinquent juveniles in follow-up stage ($p=0.001 < 1$, $F=5.84$).

Conclusion: with respect to the effectiveness of the compassion-focused therapy at the follow-up phase in this study, as well as the effect of self-compassion practices over time (accumulation effect), it seems that the compassion-focused therapy has been effective in learning to regulate negative emotions and as a result, breaking the subjects' resistance against the fear of compassion.

Declaration of Interest: None.

Key words: Compassion focused therapy (CFT), Self-harming behaviors, Juvenile delinquent.

Introduction

Self-harm behavior is defined as deliberate destruction or alteration of body tissues causing damage to the tissues (1,2). The most common self-harm behaviors are cutting the skin, burning skin, severe skin abrasions, tearing up, hitting, biting, removal of scars and pulling hair. This term includes self-defeating behaviors and many forms of indirect damage to the body (3).

Self-harm behaviors can be observed in adolescents of different cultures (4). Studies conducted in Japan and Turkey showed that

the prevalence rate of self-harm behavior is between 10 to 20 percent (5). The prevalence of this disorder is reported to be 14% to 35% in students (6,7) and 4% in general population (8).

For a majority of adolescents, self-harm behavior begins between 13 and 15 years of age (9). However, there is some evidence on its earlier manifestation in a substantial portion of youth. For example, Ross and Heath (10) studied high school students and found that 25 percent of the students were first affected before 12 years of age. Studies have also revealed that people who have started self-

harm behaviors at an early age and use a variety of such behaviors for longer time periods have a worse prognosis (11).

Compassion-focused therapy is unique type of acceptance based on cognitive-behavioral approaches and is originated from developmental psychology, cognitive neuroscience and Buddha's teachings (12). Conceptually, this type of therapy is based on Gilbert's social mentality theory (13,14). Gilbert (15) regards social mentality as provisional patterns of communication with others and oneself, which are created through neurobiological activities of emotion regulation systems of the brain. These systems may be activated through receiving external or internal stimuli. Stimuli such as hostility from others and self-criticism which are perceived as a threat, activate the safety-seeking threat protection system and this leads to the secretion of serotonin neurotransmitters. Activation of the safety-seeking threat protection system results in responses such as fight, escape or avoidance, which are associated with feelings like anger, fear, shame or disgust. Extra and continued stimulation of this system could give the impression of social status to individuals and this social mentality is determined through one's belief to his power position compared to others'. Individuals who are extremely sensitive to social comparison are more susceptible for depression, anxiety, shame and self-criticism (16). In contrast, signs of self-or other-compassion activate human warmth/contentment system, which is associated with the perception of care and accompanied with a sense of care, dependence, relief and safety. Activating human warmth/contentment system through compassion contributes to relieving the immune system against threats. This is made possible through the release of opioids and oxytocin (17). Supports for Gilbert's theory in the field of neurobiological dependents of human warmth/contentment system arise from studies suggesting that there is a relationship between the opioid performance and dependency affiliation. Furthermore, the magnetic resonance imaging (MRI) studies show that your self-compassion and relief activate some

areas of the brain responsible for positive emotions and reducing stress (18,19,20).

Compassion-focused therapy was developed to aid individuals with high levels of shame and self-criticism (21). Researchers believe that shame and self-criticism have a serious negative impact on the progress of the treatment process and this impact interferes with reasons because of which the patients started taking treatment (22). However, the combination of compassion and its associated excitement is the central part of shame and self-criticism treatment (23).

A lot of research has been conducted on the efficacy of self-compassion-focused therapy and verified its effectiveness. Some studies are as follows: Vettese, Dyer, Li and Wekerle (24) (Impact of self-compassion on the relationship between misbehavior in childhood and emotion regulation problems in adulthood); Van Dam, Sheppard, Forsyth and Earleywine (25) (predictive effect of self-compassion and mindfulness on the severity of symptoms and quality of life for people suffering from anxiety and depression), Asano et al. (23) (Impact of compassion -focused therapy on depression treatment), Teresa (26) (Efficacy of compassion focused therapy on the shame associated with injury and post-traumatic stress); Rockliff, Gilbert, McEwan, Lightman and Glover (27) (Effect of compassion-focused mental imaging on heart rate and cortisol levels); Allen and Leary (28) (Adaptation process used by people with high levels of self-compassion against stressful events) and Nourbala, Borjali and Nourbala (29) (Impact of compassion-focused group therapy on women with depression). Many studies have also documented the relationship between self-compassion and adaptive psychological functioning. Neff and Mcgehee (30) showed that self-compassion is negatively correlated with depression and anxiety in adolescents and young adults. Other studies have showed the relationship between self-compassion and happiness and adaptive adjustment and academic failure among university students (31,32).

According to the above-mentioned benefits of compassion-focused therapy, the present study aimed to investigate the effect of compassion-

focused therapy on improving self-harm behaviors in juvenile delinquents.

Methods

This study used the pretest-posttest-follow up (PPF) design. Based on this design, the researchers collected the required data in three different stages: Prior to and after intervention and during the follow-up phase with an interval of three months (33). The researchers used the PPF design to answer 4 main research questions posed in this study in order to examine the effectiveness of the compassion-focused therapy (34).

The study population consisted of the juvenile delinquents admitted in Tehran Correction and Rehabilitation Center during the second quarter of 2016. Given that this quasi-experimental study used pre-test, post-test and follow-up design with a control group, the Cohen's effect size of 0.76 and test strength of 0.5 were used and accordingly 15 patients were placed in each group (35). Purposeful sampling method was adopted so that a list of teenagers with a history of self-harm behavior was first prepared; then, 44 young volunteers meeting the inclusion criteria were selected; Inclusion criteria were: having a history of self-harm behaviors. Exclusion criteria also contained having no diagnosable severe mental disorder. Finally, 24 and 20 teenagers were randomly placed in the experimental and control groups with regard to their even or odd numbers. Due to sample attrition caused by discharge from the center, 13 patients in the experimental group and 9 patients in the control group were the sample of this research.

Klonsky and Glenn's Inventory of Statements about Self-Injury (ISAS). Klonsky and Glenn's Inventory of Statements about Self-Injury (ISAS) (36) is a self-report tool assessing the frequency and performance of self-harm behaviors for Nonsuicidal Self-Injury (NSSI). The inventory consists of two parts: the first part, 12 different types of intentional (conscious) nonsuicidal self-injury behaviors.

Test-retest reliability of this scale for a 1-4 week interval was estimated to be $r = 0.85$. The internal consistency of the questionnaire using Cronbach's alpha was 0.84 (36).

The second part of the questionnaire examines the performances of non-suicidal self-injury behaviors. This part assesses the performances of 13 self-harm behaviors confirmed in the experimental and theoretical studies. These performances are classified under two general categories: Intrapersonal performance (emotional adjustment, anti-dissociation, anti-suicidal, distress and self-punishment) and interpersonal performance (independence, individual privacy, interpersonal influences, dependence on peers, revenge, self-care, sensation seeking and tenacity). The second part of the scale revealed high construct validity and internal consistency values ($n=51$). Cronbach's alpha for intrapersonal performances is (0.69) and for interpersonal performances is (0.75) (36). The questionnaire was first used and translated into Farsi by Damavandian (37); He reported the questionnaire reliability calculated via Cronbach's alpha to be 0.76. Moreover, the face and content validity of the questionnaire was also examined and approved.

After the pre-test, the experimental group received the group compassion-focused therapy. The treatment was conducted in eight 90-minute sessions twice a week. The content, procedure and presentation methods were prepared using authentic sources (Gilbert, 2010) and under the supervision and guidance of the researchers' advisor professor and implemented after approval. At the end of treatment and 3 months after the intervention (follow-up phase), post-tests were performed for both groups.

The experimental group received eight intervention sessions on compassion-focused therapy during 4 weeks (2 sessions per week). The content of each session was as follows:

Table 1. Description of treatment sessions

Session	Description
0	Meeting group members, introducing the program, explaining objectives and conditions of contracts, pre-test.
1	In the first session, the treatment was provided with a brief introduction of compassion-focused therapy and the necessary requirements were prepared to train the participants.
2	In the second session, three compassion systems as well as the nature of self-compassion were explained. Then, a short time was spent on training and practicing relaxing breath
3	In the third session, emotion management systems and compassion components were reviewed. Then, relaxing breath exercises were then done and training the self-sympathetic participants began (through playing the role of a sympathetic person in a movie).
4	In the fourth session after a brief review of all previous sessions (human emotional system, definitions and components of compassion and features of sympathetic individuals), the session was about training mental imagery and compassion-focused practices. Also, some points were presented at the end of the session regarding the establishment of a secure environment. During the session, training and practices of the sympathetic person were also included.
5	In the fifth session, there was a review of previous sessions. One-minute relaxing breath and mindfulness practices were carried out. Additionally, mental imagery of a secure environment was practiced by all the subjects.
6	The sixth session contained relaxing breath practices followed by mindfulness and visualization one-minute practices and training internal and external compassion. Issues associated with selves including self-sorrow, self-distressed, self-angry and self-compassionate. At the end of the meeting, there was discussion about the sympathetic individual's chair and practices.
7	The seventh session included reviewing the previous points including breathing along with conscious attention and examining compassionate images of the subjects. Talking about self and trying to segment it into various components. Two participants role played self-angry and self-compassionate and angry and compassionate chairs. At the end of the session, there were some points expressed with regard to compassion letter and its practice was postponed to the next meeting.
8	In the eighth session, there were practices of the skills learned in previous sessions including relaxing breathing and the practice of mindfulness, compassionate imagery and nurturing self-compassionate with compassionate coloring, focusing on self-compassionate and flowing the compassion towards others within compassionate imagery, working with compassionate chair and segregating self-compassionate, self-angry, self-sorrow and self-distressed, writing compassion letters and its practice and implementation. Fear of compassion was also described in this meeting. The final session contained the implementation of post-test, survey about the program and project termination party and the appreciation of subjects

According to the literature, the most appropriate analysis technique for such a design is the analysis of covariance. This analysis considering the pretest as a covariate is the most appropriate analysis in this regard (34). Also, because there was a difference regarding the number of participants in the control and experimental groups in all three assessment phases of self-harm behaviors, the Type III sum of squares was used to analyze the components of the variance. For the ease of data analysis, the R statistical software was used.

Results

The mean age of participants was 18 years with a standard deviation of 1.8. Frequency distribution of different types of self-injury behaviors showed that 91 percent of participants have attempted to cut their body. Carving (tattoos) and swallowing a lot of hazardous materials was ranked second with a frequency of 61 percent. 43% of the participants expressed that they did not feel pain when doing self-harm behaviors and 50% of the participants stated that they were alone when performing harmful behaviors and only 13% of individuals have their self-harm behaviors in front of the others.

36% of individuals often revealed self-harm behaviors in the presence of others and sometimes when they were alone and 63% of individuals claimed that it takes less than one hour from decision for self-harm behavior to its performance and it takes less than three hours for 84% of the subjects to perform self-harm behaviors. Of the participants, 63% have decided to stop self-harm behaviors and 36% have not decided to stop their self-harm behavior.

Table 1. Analysis of covariance to compare the differences in mean scores of post-test and follow-up in experimental and control groups.

Variable	Sum of squares	df	F	Sig.
Constant	3230.120	1	8.385	00.09
Post-test	803.403	1	2.086	NS
Intergroup	745.543	1	1.935	NS
Error	7318.874	19		
Total Score	10401.000	22		

The results show no significant difference between groups in terms of combined mean scores of post-test and follow-up phases of self-harm behaviors ($F=1.93$ and $\text{sig.}=0.180$). In other words, self-harm behaviors included in the questionnaire makes similar variance in the control and experimental groups over time. Time and intervention had no effect on the scores. The eta value (0.085) was calculated based on the total SS and inter-group SS. In other words, only 0.007 of the variance in the dependent variable could be explained by the variable groups (control and experimental).

Table 2. Analysis of covariance to compare the score differences between experimental and control groups

Variable	Sum of squares	df	F	Sig.
Constant	595.101	1	4.379	0.043
Pre-test	1670.223	1	12.291	0.001
Intergroup	140.190	1	1.032	NS
Error	5299.610	39		
Total Score	63106.000	42		

The results revealed no significant difference between the two groups in terms of scores after the intervention ($F=1.032$ and $\text{sig.}=0.316$). In other words, self-harm

behaviors included in the questionnaire were not significantly different for the control and experimental groups after receiving compassionate-focused therapy.

Table 3. Analysis of covariance to compare the score differences in follow-up scores in experimental and control groups

Variable	Sum of squares	df	F	Sig.
Constant	867.295	1	7.619	0.012
Pre-test	138.772	1	1.219	NS
Intergroup	1.336	1	0.012	NS
Error	2162.920	19		
Total Score	23950.000	22		

The results revealed no significant difference between the two groups in terms of self-harm behavior scores after the intervention ($F=0.012$ and $\text{sig.}=0.915$). In other words, self-harm behaviors included in the questionnaire were not significantly different for the control and experimental groups after a 3-month interval of compassionate-focused therapy.

Table 4. Analysis of covariance to compare the score differences between posttest and follow-up scores in experimental and control groups

Variable	Sum of squares	df	F	Sig.
Constant	4.267	1	0.040	0.844
Pre-test	22.892	1	0.214	NS
Intergroup	624.632	1	5.840	0.026
Error	2032.338	19		
Total Score	2915.000	22		

According to the above table, there is a significant difference between the two groups in terms of follow-post self-harm behavior scores ($F=5.84$ and $\text{sig.}=0.026$). In other words, follow-post self-harm behaviors included in the questionnaire were significantly different in the control and experimental groups. The score difference is greater for the experimental group than the control group. This means that the three-month interval after intervention could make significant differences in self-harm behaviors.

Conclusions

The results of this study showed that the compassion-focused therapy has been effective in reducing self-harm behaviors at the follow-

up phase (3 months after the end of treatment) in juvenile delinquents. However, it had no impact on reducing self-harm behaviors immediately after the intervention. The results of this study are consistent with the results of research conducted by Vettese, Dyer, Li and Wekerle (24), Van Dam, Sheppard, Forsyth and Earleywine (25), Asano et al. (23), Teresa (26), Rockliff, Gilbert, McEwan, Lightman and Glover (27), Allen and Leary (28), Harouni Jamalouei (38), Golparvar, Abolghasemi, Ahadi and Narimani (39) and Nourbala, Borjali and Nourbala (40).

Researchers working in the field of compassion-focused therapy believe that all individuals use three systems to manage their emotional status: Human warmth/contentment system, Safety-seeking threat protection system and stimulating system. Each system has different incentives, focuses, thoughts, emotions and physical sensations. Each system is also accompanied with different brain and chemo-nervous parts (41). In order to explain the impact of compassion-focused therapy in the follow-up phase, the concept "accumulation effect" presented by Welford (42) in his book entitled "Compassion Focused Therapy for Dummies" can be cited. He believes that compassion-focused exercises are often established based on each other and have accumulation effect. For example, at the time of compassionate writing (writing a compassionate letter), the relaxing respiratory rhythm or imagery is used and these practices lead to improved compassionate thinking and solutions. It can be argued that, regarding the effects of compassion-focused therapy, time lapse (accumulation effect), is a critical intervening variable affecting the effectiveness of this treatment. In order to confirm this argument, Welford (42) believes that time should pass in order for compassionate imagery to be stored in the long-term memory of the clients and for its effect to be appeared in their thought and action.

Another key concept in explaining the results of this study is "fear of compassion". In the explanation of the results of this study regarding the lack of the effectiveness of the compassion-focused therapy on the reduction of self-harm behaviors, immediately after the

end of the treatment (at the post-test phase), it can be argued that, although growing evidence indicates that extending compassion to oneself, especially in relation to stressful problems and failures, leads to development of psychological adjustment, improvement of social ties and happiness in the adolescent and adult population (30,43). However, positive emotions and compassionate feelings in some people may lead to the prevention of compassion or even fear of compassion reactions (44). In particular, people with high shame and self-criticism and a history of violent behaviors tend to show fear, avoidance and resistance in friendship with others and feeling of warmth and compassion toward themselves (43,44), which is consistent with the findings of this study. In explaining these results, it can be argued that, since this group of individuals has not experienced compassion to themselves and others and thus, has an undeveloped relief system with a more active threat system, the compassion-focused intervention has been effective in activating the relief system.

To explain this result, and according to Gilbert et al.'s opinions, fear of compassion includes three directions or dimensions: a) fear of compassion to others; b) fear of compassion from others; and c) fear of compassion to oneself. Accordingly, it seems that the component fear of compassion to oneself is a critical variable that has influenced the effectiveness of the compassion-focused therapy program in this study at the post-test phase. In support of this view, results of studies have shown that fear of compassion correlates with self-criticism, depression, anxiety and stress signs, difficulty with mindfulness practices, sense of security and self-assurance. In addition, researchers believe that these fears may trouble transformation of experiences or compassionate behaviors and/or social honor system underlying compassion (43, 44). In support of this view in the intervention sessions, the participants acknowledged that they were not able to recall a sympathetic individual's image in their mind. Moreover, some stated at the follow-up phase that the first image of a sympathetic

individual formed in their mind was that of the researcher.

According to what was mentioned above, it can be argued that fear of compassion is also an important factor that explains the lack of effectiveness of compassion-focused therapy on the reduction of self-harm behaviors among the juvenile delinquents in this study at the post-test phase. Thus, due to the confirmed benefits of compassion-focused interventions in a variety of mental health problems (e.g., shame, self-criticism, rumination, avoidance, negative emotions, anxiety and depression), it seems that resistance against compassion to oneself and others should be considered in a more appropriate treatment space so that it could promote inner emotional regulation, communication and facilitative emotions (44) with respect to the effectiveness of the compassion-focused therapy at the follow-up phase in this study, as well as the effect of self-compassion practices over time (accumulation effect), it seems that the compassion-focused therapy has been effective in learning to regulate negative emotions and as a result, breaking the subjects' resistance against the fear of compassion.

Each study has a number of delimitations beyond the control of the researcher and this study was not an exception. One of the delimitations of this study was gathering information through questionnaires and self-report of the participants. This may have affected the way the subjects responded and therefore, created bias in the responses provided by the subjects. Also, performing the therapeutic intervention by the researcher can possibly cause biases in recording the results that may have affected the obtained results. Another delimitation of the study was that juvenile delinquents, who comprised the case to be studied in this research, were a special population with multiple individual, family and social problems; lack of controlling issues, including use of drugs and risk of psychiatric disorders, was among the delimitation affecting the results of this study, which was not examined.

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