Original Article

Journal of Iranian Medical Council, Volume 4, Issue no. 4
http://dx.doi.org/10.18502/jimc.v4i4.8479

Mindfulness-Based Compassion-Focused Therapy and a Comparison of Effectiveness of Stress Reduction Program on Self-Compassion of HIV Positive Patients

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Abstract

Background: Over the past decade, there has been an increasing interest in exploring self-compassion as a related and complementary construct to mindfulness. Improved self-compassion may predict clinical outcomes after implementing Mindfulness-Based Stress Reduction (MBSR) approach and Compassion-Focused Therapy (CFT). This pilot study compared the impact of MBSR and CFT on self-compassion in people living with HIV, utilizing implicit and explicit instructions, respectively.

Methods: The present quasi-experimental study with pre-test, post-test, and follow-up design was conducted among people living with HIV referred to the Voluntary Counseling and Testing (VCT) center of Imam Khomeini Hospital in Tehran, Iran in which 54 patients were selected by convenient sampling. The interventions based on CFT and MBSR were applied to two experimental groups (18 people in each group) while the control group included 18 people who received no interventions and were placed on a waiting list. The experimental groups received the two interventions for 10 weekly sessions. Patients' self-compassion was assessed at three stages of pre-test, post-test, and follow-up with a self-compassion scale. Descriptive and inferential statistics (analysis of covariance) were used to analyze the extracted data.

Results: The results showed that both interventions based on CFT and MBSR were effective in enhancing self-compassion of people living with HIV ($p<0.05$), and this effect remained consistent even during the follow-up stage ($p=0.021$). The changes were observable even three months after the treatment ($p< 0.05$).

Conclusion: This study demonstrated that MBSR and CFT can be effective in improving self-compassion among HIV positive patients. Besides, they can be helpful in developing preventive interventions.

Keywords: Counseling, Empathy, HIV, Humans, Mind-fulness, Pilot projects

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Received: May 29 2021
Accepted: Aug 3 2021

Citation to this article:

Amirkhani M, Ghorbanshiroudi Sh, Zarbakhsh Bahri MR, SeyedAlinaghi S. Mindfulness-Based Compassion-Focused Therapy and a Comparison of Effectiveness of Stress Reduction Program on Self-Compassion of HIV Positive Patients. *J Iran Med Counc*. 2021;4(4):311-21.

Introduction

The AIDS epidemic is considered to be the greatest challenge of the 20th century (1). Since the identification of the first case of AIDS until now, it has been a worldwide epidemic, and despite extensive advances in pharmacotherapy, it remains one of the leading causes of death in the world (2). HIV continues to be a major global public health issue as almost 33 million people have died so far (3). HIV as a life-threatening illness creates a distressing condition. Not only does HIV increase the rate of premature death, but the stigma associated with HIV creates special personal and social problems.

Many people who contract HIV already confront substantial psychological and social challenges, including poverty, isolation, substance abuse, and mental health difficulties (4), have reactions such as anger, self-blame, depression (5), stigma, shame (6), and even disgust, and other reactions that reflect the level of their coping ability to accept their situation and take steps to deal with it. For example, people who blame themselves for contracting HIV often avoid managing their disease (5). Also, HIV stigma has been associated with increased depression, social isolation, and poor psychological adjustments. It can influence disclosure of their mental health and care-seeking behavior (6), resulting in social isolation, feelings of shame, and fear of enacted stigma (7). People Living with HIV (PLWH) may experience internalized shame, which has been associated with negative psychosocial outcomes which worsen their condition (8). Due to the chronicity of HIV and the increased number of PLWH, innovative and practical strategies should be implemented for patients so that they take advantage of high-quality healthcare services (9-11).

A new component used as a new behavioral intervention for PLWH is self-compassion (12). Self-compassion is compassion to one's self including treating oneself with the same care and concern with which one treats loved ones when they experience difficulties in life. When facing problems, self-compassionate people treat themselves with kindness and concern rather than criticism or judgment since they recognize that difficulties are a normal part of life, and approach their problems with equanimity and balance, neither downplaying nor over-identifying with their negative thoughts and feelings (13). Self-compassion, the antithesis of internalizing shame, includes the elements of self-kindness, mindfulness, and common humanity which are at odds with indicators of internalized shame including negative beliefs about the self, emotional withdrawal, and feelings of isolation (8). Self-compassion is associated with well-being and resiliency. People who have high levels of self-compassion deal with negative events including failure, rejection, and loss more successfully than people who do not have such feeling (12).

In a study of PLWH, self-compassion has been identified to be associated with better adherence to HIV treatments, keeping appointments, and taking medications on time (14). One approach incorporating explicit compassion instructions is Compassion-Focused Therapy (CFT) developed by Gilbert (15). CFT is an "integrated and multimodal approach that draws from evolutionary, social, developmental and Buddhist psychology, and neuroscience" (16). It was originally developed for people with long-term emotional problems, often associated with high levels of shame and self-criticism, and introduced as an individual therapy. CFT seeks to help individuals develop compassion for themselves and others (17). It involves training them about how the brain operates in terms of three types of emotion-regulation systems: the threat system, the drive system, and the soothing system. CFT suggests that self-compassion deactivates the threat system and activates the self-soothing system (18). In a longitudinal study, it was revealed that being compassionate towards oneself and others resulted in survival of PLWH. These findings imply that CFT may have potential benefits for reducing the risks of suicide in newly diagnosed PLWH (19). Harrowing demonstrated that compassion practices in HIV care significantly fostered wellbeing amongst PLWH in Uganda (20). Moreover, Swansick in a study that tested self-compassion and shame on an HIV nightline claimed that self-compassion is imperative for ameliorating the feelings of guilt and shame (21). In addition to self-compassion, mindfulness is also effective in buffering against self-stigma and enhancing well-being among people with various negative experiences (*e.g.* people living with HIV) (22). Mindfulness entails being

aware of the present moment experience in a non-judgmental manner regardless of whether it is positive, negative, or neutral (23). In the face of unwanted thoughts and experiences, mindful individuals tend to be aware of their body sensations, thoughts, and emotions with less reactivity and maintain a stance of equanimity instead of engaging in suppression or excessive fixation. By adding clarity and vividness to the experience and by orienting to the present moment with curiosity and openness, mindfulness has been shown to improve emotion regulation, distress tolerance, and well-being. The non-judgmental view of one's thoughts and the acceptance-based approach promoted by mindfulness-based interventions can provide a metacognitive insight in acceptance of the illness and its symptoms, alleviating the ruminative patterns of depressive episodes, stress, and suicidal ideation for individuals with various mental disorders, including anxiety, social phobia, depression, and schizophrenia, which are strongly related to the development and relapse of mental disorders (22).

With mindfulness, people are more likely to be aware of their own emotions in a less harmful way when they arise. PLWH may feel guilty, unclean, or find their infected body disgusting; they often experience apprehension and rejection by others. Yet, the non-judgmental, receptive attitudes, and feeling of detachment in mindfulness may allow the individuals to sense and cognize this negative information without being drowned by the negative emotions incurred. Therefore, they would be precluded from being negatively engaged in rumination. Besides, with self-kindness and a sense of common humanity, self-compassionate people may approach negative emotions with comfort and understanding (24). Studies have shown that Mindfulness-Based Stress Reduction (MBSR) therapy decreases emotional distress (25,26), anxiety, stress, depression, and post-traumatic stress disorder (27). It also has positive effects on psychological status and CD4 count (28), and can enhance the quality of life in PLWH (26). After more than three decades, the prevalence of HIV/AIDS has become a stumbling stone in the progress of human civilization and is a huge concern for people worldwide (29). The outlined evidence suggests that mindfulness-based programs, though implicitly, are effective in reducing emotional distress in part because they cultivate self-compassion. There is also initial evidence that group CFT, a program targeting development of compassion toward self and others explicitly, can result in reductions in anxiety, depression, and other symptoms similar to the effects of MBSR.

The purpose of the current study was to compare the effectiveness of CFT and MBSR on self-compassion of PLWH. It seems that no studies have been conducted in Iran so far regarding the effects of these treatments on HIV self-compassion among PLWH. Therefore, considering the importance of the subject and the novelty of the issue, studies are required to be carried out on this subject. Accordingly, an attempt was made to investigate whether mindfulness-based compassion and stress-based treatment are on self-compassion among patients. Moreover, the comparative effects of these two treatments on self-compassion among PLWH and the possibility of whether these changes are present even after three months of treatment were investigated.

Materials and Methods

This quasi-experimental study with pre-test, post-test, and follow-up design was conducted among people living with HIV referred to the Voluntary Counseling and Testing (VCT) center of Imam Khomeini Hospital in Tehran, Iran. This study was approved by Ministry of Health and Medical Education with the ethics code of IR.IAU.TON.REC.1399.04.

The statistical population of the study was all PLWH referred to Imam Khomeini Hospital. A statistical sample was extracted from 1284 PLWH at the VCT center of Imam Khomeini Hospital who had active records, and 296 people were included in the study based on Cochran's formula.

Then, 54 patients were selected by convenient sampling. The interventions based on CFT and MBSR were applied for two experimental groups (18 people in each group). The control group included 18 people who received no interventions and were placed on a waiting list. The experimental groups received two interventions for 10 weekly sessions. Patients' self-compassion was assessed at three stages during pre-test, post-test, and follow-up with the Self-Compassion Scale (SCS). Descriptive statistics and inferential statistics (analysis of covariance) were used

to analyze the data.

The inclusion criteria of the study were as follows: PLWH with an active file, being aged 18-45 years, not having psychiatric disorders, not taking psychiatric drugs, not having substance dependence, and not receiving psychological treatment during the past 6 months. The exclusion criteria of the study were not attending 2 intervention sessions and use of any psychiatric medication. The Self-Compassion Scale (SCS) was used to homogenize the research population. In this case, scores lower than the cut-off point of SCS were used for sample selection.

The research participants completed a demographic questionnaire, SCS in the pre- and post-intervention phases, as well as three months after the intervention (follow-up stage). The study was of a double-blind design, as the investigator and participants were blind and only the first author who conducted the intervention was aware of the relevant data. The intervention group received eight 90-minute CFT sessions (based on Gilbert's protocol); however, the control group received no intervention. During the research process, 2 subjects from the experimental group and 2 control subjects were removed, due to unwillingness to continue the research.

SCS (14) consisted of 26 items that was rated on a five-point Likert scale; next, comparisons of the positive and negative aspects of the three main factors of self-compassion including comparisons between self-kindness and self-judgement, common humanity and isolation, and mindfulness and over identification was done by the scale. Birnie *et al* (30) reported high internal consistency for SCS subscales (α=0.77–0.81) and overall high convergent and discriminant validity. This measure has been criticized because of its factor structure (31,32); however, it was selected to provide comparative insights regarding the effect size of self-compassion variable. In addition, due to the existence of the mindfulness subscale, overlap between variables should be considered.

Statistical analysis

The data obtained from 30 individuals were analyzed. Normality was confirmed using Shapiro-Wilk test. In addition to descriptive statistical methods (Mean, standard deviation, frequency, and percentage), blinded data analysis was performed using repeated-measures analysis of variance (ANOVA) by SPSS software *v*25 (IBM,USA). Statistical significance was set at $p \leq 0.05$.

Results

Normal distribution of data

To determine the type of statistical test for data analysis, the normality of the data distribution was determined by Shapiro-Wilk test. As table 1 depicts, the results of Shapiro-Wilk test analysis showed that the statistical values obtained in the pre-test and post-test of the experimental groups and the control group were more than the critical value (α=0.05). Thus, the data was normally distributed. Also, since the values of skewness and kurtosis were between -2 to 2, the data distribution was normal.

The data obtained from the questionnaires at pre-test and post-test stages of the experiment were analyzed by appropriate statistical methods, the results of which are as follows. The mean age of cases in the study groups was 37 years, among whom nearly 61% were male and 59% were female.

As table 2 shows, the mean and standard deviation of self-compassion subscale in the first experimental group CFT were 95.28±18.39 in the pre-test, 112.94±5.66 in the post-test, and 114.94±5.90 in the follow-up. In the second experimental group (MBSR program), these values were 95.44±12.62, 102.05±12.76, 104.22±12.21 in pre-test, post-test, and follow-up, respectively. Finally, in the control group, they were equal to 95.55±15.50, 95.72±15.90, and 95.83±15.27, respectively during the above mentioned periods. The results showed a significant increase in scores in the experimental group, but the difference was not observed in post-test and follow-up phases.

As it can be seen in table 3, the f-ratio from the analysis of covariance indicates that after eliminating the effects of the auxiliary random variable (pre-test), there was a statistically significant difference between the adjusted scores of self-compassion in the post-test phase (F=975.10; p=0.001). As a result of having two experimental and one control groups, the effectiveness of CFT and MBSR training has been different on patients' self-compassion in the Practice Educator Professional Standards (PEPS) stage of the test. The eta squared shows that 97.5% of the changes or increases in the rate of self-compassion in PLWH

Table 1. Shapiro-Wilk test result and distribution indices to determine the normal distribution of self-compassion subscale data

Analysis	Compassion-focused therapy			Mindfulness-based stress reduction program			Control		
	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up	Pre-test	Post-test	Follow-up
Shapiro-Wilk test	0.991	0.986	0.937	0.977	0.891	0.925	0.916	0.952	0.918
Significance level	0.100	0.989	0.260	0.913	0.060	0.158	0.108	0.456	0.120
Kurtosis	-0.079	0.151	-0.386	0.226	1.33	0.343	0.499	-0.463	0.522
Skewness	-0.309	-0.086	-0.921	0.649	1.64	1.62	-0.031	0.128	-0.052

Table 2. Descriptive indicators of self-compassion scores of subjects in pre-test, post-test, and follow-up stages

	Compassion-focused therapy		Mindfulness-based stress reduction program		Control	
	Mean	SD	Mean	SD	Mean	SD
Pre-test	95.28	18.39	95.44	12.62	95.55	15.50
Post-test	112.94	5.66	102.50	12.76	95.72	15.90
Follow-up	114.94	5.90	104.22	12.21	95.83	15.27

Table 3. Results of univariate analysis of covariance to determine the difference in the effect of compassion-focused therapy (CFT)

Sources of change	Total squares	Degrees of freedom	Mean squares	F-ratio	P-value	
Group	37948.56	2	18974.28	975.10	0.001	0.975
Error	991.23	50	19.83			
Total	39249.93	53				

Table 4. Average scores of compassion variable obtained by comparing different therapies based on the type of treatment

Comparisons	Mean difference	SD	p-value
CFT-MBSR	0.167	0.694	0.972
CFT-Control	1.94	0.694	0.026
MBSR-Control	2.11	0.694	0.014

were due to the effect of treatment methods.

The mean value in post-test and follow-up stage in the CFT group was equal to 2, compared to 2.17 using BSR and in the control group, the obtained value was -0.056.

F-Ratio obtained from analysis of variance indicated that there was a statistically significant difference between the scores of self-compassion from the post-test stage to the follow-up stage (p=0.006).

As shown in table 4, the results of the Scheffe test indicated that there was not a difference between the effects of CFT and MBSR on self-compassion (MD=0.167; p>0.05). There was no statistically significant difference between patients so the effect of CFT and MBSR therapy on patients' self-compassion remained consistent from the post-test to follow-up stage. On the other hand, the observed differences between each treatment group and the control group were statistically significant.

Discussion

The purpose of this pilot study was to investigate the effects of CFT and MBSR program on self-compassion in PLWH. The results of analysis showed that both interventions improved the level of self-compassion in patients with HIV. These results remained consistent even three months after the treatment. Comparing the effectiveness of two therapies, it was revealed that compassion-based therapy had a greater effect on reducing self-compassion in patients than MBSR therapy. This is the first study in Iran that has directly compared the effects of MBSR and CFT. According to our findings, there were significant differences in their effects. The findings of the present study indicated that CFT had a greater effect on the self-compassion of PLWH. than MBSR. Despite major advancements in the treatment of HIV and the reduction of side effects due to effective medication, the experience of living with HIV is still one of the major sources of stigma and shame for many individuals who are struggling with this condition as HIV has remained a highly stigmatized disease (33). Research results highlight the fact that on a psychological level, people often experience a deterioration of their self-image, feel shame or guilt according to their HIV diagnosis, and fear of being rejected or discriminated by others (34). Also, some people had feelings of anger, self-blame, depression, and even disgust after being informed about their HIV status. These reactions can compromise their ability to accept their situation and attenuate their strength to deal with the problem. For example, people who blame themselves for contracting HIV often avoid managing their disease (5). First and foremost, literature indicates that shame, an affective state close to self-stigma, is fundamentally the result of an internal obsession questioning one's responsibility in incidence of negative events as the individual blames oneself (35). In fact, for preventing such approaches, skills training toward managing the external factors leading to a given social context or outcome is beneficial. This would indicate the use of a behavioral intervention such as reciprocal inhibition, the practice of a mutually exclusive behavior that interferes with surpassing the internal shame in oneself. This is essentially the core of Gilbert and Procter's (36) compassionate mind training and Gilbert's CFT. Self-compassion is a functional attunement toward the salient roles that contextual factors play in the lives of others and ourselves (37) and is incompatible with the internal obsession that is the result of stigma or shame (35). As described by Gilbert (38), CFT is a set of techniques that may be incorporated into a variety of compatible therapeutic techniques. Therefore, a possible explanation for the findings in our current study, which demonstrated that CFT significantly increases self-compassion, could be found in the compassionate mind training contents of the CFT. Training people who live with shame, self-harm, or self-guilt is very imperative for improving their adaptive functioning. This study was, therefore, amongst the first studies to validate the assertions of Gilbert (38) using a sample of newly diagnosed PLWH. One of the strengths of the current research was evaluating the effect of CFT and MBSR on self-compassion amongst PLWH as no published study established such relationship. For instance, O'Donovan *et al* (39) indicated that CFT was found to be useful and supportive in reducing psychological distress in a sample of PLWH. It was also found that resilience and acceptance of HIV-positive status were enhanced after the exposure to CFT. In a different study, Williams (7) determined that compassion-focused practices were significantly

effective in reducing HIV stigma and negative effects in PLWH. Brion *et al* (13) found, in a sample of 187 PLWH, that self-compassion was related to better adjustment, lower stress, anxiety, shame, and more adaptive reactions when having HIV. Swansick (21) in a study that evaluated self-compassion and shame on an HIV nightline established that self-compassion was imperative for reducing guilt and shame. Harrowing (20) determined that compassion practice in HIV care significantly fostered well-being amongst PLWH in Uganda. Surprisingly, in a different study by Webel *et al*, the experience of HIV symptoms was found to predict reactions in facing HIV amongst PLWH, although self-compassion was not found to significantly contribute to the experience of HIV symptoms (40). Conversely, Ironson *et al* (18) in a longitudinal study showed that being compassionate towards oneself and others has survival benefits for PLWH. These findings imply that CFT may have potential benefits for reducing the risks of reactions like suicide in newly-diagnosed PLWH. In addition, Frostadottir and Dorjee (41) found that CFT resulted in significant increases in mindfulness and self-compassion and decreases in rumination, depression, anxiety, and stress in HIV patients.

In the context of MBSR, the cultivation of self-compassion is observable as it is the indirect goal of programs. Segal *et al* (42) who developed MBSR advise mindfulness teachers against explicitly discussing or teaching self-compassion in the program. Rather, they suggest that participants learn the principles of self-compassion implicitly by the kind and compassionate behavior of the teachers (43). Indeed, according to Germer and Barnhofer (16), the MBSR is a behavioral intervention that incorporates the practice of insight-oriented (or mindfulness) meditation as its foundation. Besides, Kabat-Zinn argued that MBSR brings about mindfulness via an attitude of acceptance, kindness, compassion, openness, patience, non-striving, equanimity, curiosity, and non-judgement (44). Therefore, it appears that many authors view self-compassion as being developed implicitly through attitudes cultivated in a mindfulness-based program. Addressing compassion more broadly, Gilbert and Choden (45) viewed mindfulness as a context through which compassion is achieved, necessary for both the motivation to engage with suffering and the skill to alleviate it. Thus, it seems that developed mindfulness skills foster greater self-compassion.

Also, according to Kabat-Zinn, mindfulness arises from the simultaneous cultivation of three mechanisms: (a) intention and understanding of why one is engaged in the practice of mindfulness (*e.g.* self-regulation, stress reduction), (b) attention to one's moment-to-moment observations and experiences without judgment or analysis, and (c) attitude of acceptance, kindness, compassion, openness, patience, non-striving, equanimity, curiosity, and non-judgement (46). Therefore, although self-compassion was not explicitly taught as part of the mindfulness-based intervention program, self-care and self-awareness were emphasized throughout the intervention (47).

The results of the present study are consistent with those of the research conducted by Birnie *et al* (30) who observed increased self-compassion after the mindfulness intervention. Also, in a study by Joss *et al* (47), findings indicate the mindfulness-based intervention can be helpful for improving self-compassion and psychological health among young adults with a childhood maltreatment history. Other studies based on MBSR in HIV patients indicate the effectiveness of this treatment. This concept can be deduced from the following two studies. Results of a study by Jam *et al* (28) showed that MBSR is useful in promoting immunocompetence, delaying HIV disease progression, and increasing CD4 count.

Addington *et al* (47) showed that MBSR has potentials to improve neurocognitive performance, psychosocial well-being, and quality of life in HIV patients. On the other hand, the result of a study by Mirmotahari revealed the effectiveness of MBSR on symptoms of anxiety, depression, and psychological functions in HIV patients (48). Duncan *et al* (49) determined that MBSR may be a helpful tool in reducing chronic pain associated with HIV and that this effect is likely related to the supportive social environment of the course.

Conclusion

The results of the present study showed that compassion-based therapy had a greater effect on reducing self-compassion in patients than MBSR therapy. This finding may be due to the key principles

of CFT that are to motivate individuals to care for their well-being, to become sensitive to personal needs and distress, and to extend warmth and understanding towards themselves. CFT involves developing key compassionate attributes and the skills of compassion. Individuals are encouraged to reflect on the key attributes of compassion and practice the skills needed to develop them. For example, skills training includes learning to direct attention compassionately, behave, think, reason, and respond to emotions in a compassionate way and use imagery to cultivate a compassionate mind. Individuals are taught to employ self-soothing activities, adaptive coping strategies, courage, and acts of kindness (17). These findings are in line with the results of a study conducted by Beaumont *et al* (50) regarding the effectiveness of CFT in self-compassion development. In conclusion, the findings from the current study suggest that both MBSR and CFT are effective in enhancing self-compassion in HIV patients.

Acknowledgements

The researchers would like to acknowledge the assistance of all colleagues of the VCT center of Imam Khomeini Hospital who cooperated in the implementation of the project, as well as all men and women who participated in this research project. This study was approved by Ministry of Health and Medical Education with the ethics code of "IR.IAU.TON.REC.1399.04".

Conflict of Interest

The authors report no conflict of interest.

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