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# Effect of Compassion-Focused Therapy on Mindfulness and Rumination in Women with HIV

Farzane Hajizadeh[1], Farnaz Keshavarzi Arshadi [2], Fariba Hasani[3], Mitra Safa[4]

**Abstract**

**Objective:** Women with human immunodeficiency virus (HIV) experience negative emotions. Considering the importance of these emotions and their significant impact on the mental health of women with HIV, and considering the gap of information in this regard, this study aimed to assess the effectiveness of compassion-focused therapy on mindfulness and rumination in women with HIV.

**Method**: This was a quasi-experimental study with pretest-posttest stages and a control group. Sixty women with HIV were selected and randomly assigned to the experimental and control groups. The experimental group received nine sessions(90miutes each) of compassion-focused therapy, once a week. The instruments used included the Five-Facet Mindfulness Questionnaire (FFMQ) and the Rumination-Reflection Questionnaire (RRQ). Patients in both the experimental and control groups filled out the questionnaires in two stages before and after the intervention.

**Results:** According to the analysis of covariance (ANCOVA), compassion-focused therapy significantly increased the mindfulness dimensions (observing, non-judging, non-reactivity to inner experience) in the experimental group, compared with the control group at post-test ($P<0.05$). No significant difference was observed between the experimental and control groups in terms of rumination-reflection.

**Conclusion:** It appears that compassion-focused therapy would be effective in increasing the mindfulness dimensions in women with HIV.

**Keywords**: Compassion-Focused Therapy; Mindfulness; Rumination; Human Immunodeficiency Virus

## Introduction

The increasing incidence of the human immunodeficiency virus (HIV) is one of the most important concerns of the World Health Organization in recent years. The incidence of the disease has increased in women over the recent years (Chaudhury, Bakhla, & Saini, 2016). The incidence of HIV in females is higher than males due to biological, sexual, and environmental factors (Paudel & Baral, 2015). Most infected women are unable to cope with the physical and psychological consequences of the disease (Siuki, Peyman, Vahedian-Shahroodi, Gholian-Aval, & Tehrani, 2019). More than 70% of women with HIV have been infected by their sexual partner without knowing it (Silverman, Decker, Saggurti, Balaiah, & Raj, 2008); while, others are infected through high-risk sexual behaviors (Khan et al., 2020), which have recently increased. HIV results in dysfunction, relationship problems, low self-esteem, mood disorders, and economic and occupational problems (Mirzaeidoostan, Zargar, & Zandi Payam, 2019). Misconceptions about women with HIV compromise the patients' quality of life and even their treatment and mental health. In addition,

1.PhD student of psychology , Department of Psychology ,Islamic Azad University, Central Tehran Branch, Tehran, Iran
2.Associate Professor, Department of Clinical Psychology, Islamic Azad University, Central Tehran Branch, Tehran, Iran
3.Assistant Professor, Department of Psychology, Islamic Azad University, Central Tehran Branch , Tehran, Iran.
*Corresponding Author: Farzane Hajizadeh, Email:farzane.Hajizadeh@yahoo.Com

HIV-positive women often develop psychological problems such as obsession, rumination, and depression (Rahmani S, Mohamadpour, 2019). Increased mindfulness affects the quality of life of HIV patients (Campbell et al., 2019). Mindfulness increases the metacognitive beliefs in women (Sadeghi Firoozabadi, 2020). Mindfulness is a concept associated with consciousness, which is limited to the present time and the word "here". It not only includes a non-prejudiced and nonjudgmental attitude, but also requires consciousness, dynamic concentration, and open-mindedness. On this basis, mindfulness contributes to purposeful, nonjudgmental, and momentary attention towards oneself, along with patience and kindness (Wielgosz, Goldberg, Kral, Dunne, & Davidson, 2019). Increasing mindfulness is effective for improving the quality of life of HIV patients. Mindfulness also includes observation, acting with awareness, being nonjudgmental about the inner experience, and being descriptive and non-reactive. Observation is defined as paying attention to external and internal stimuli. Mindfulness encompasses three factors of purposeful intention and attention, accompanying attitude, and nonjudgmental point of view(Alampay et al., 2020). Some researchers showed that there is a correlation between decreased mindfulness and increased rumination in people with HIV (Sizemore, Samrock, Gray, Marcotte, & Rendina, 2020). Rumination refers to repetitive, negative, and irreversible thoughts regarding depressive moods or life events (Bredemeier, Lieblich, & Foa, 2020). Rumination is a type of psychological symptom in emotional disorders experienced by HIV-infected women.

Compassion-focused therapy was first proposed by Christine Neff (2007) (Neff, Kirkpatrick, & Rude, 2007). In this type of psychotherapy, patients learn to internalize the external appeasing events and, in response to external factors, be able to soothe themselves internally (Nery-Hurwit, Yun, & Ebbeck, 2018). Generally, compassion-focused therapy consists of self-compassion training, and increasing sensitivity along with a deep commitment to relieve pain. It is based on three components of mindfulness, common human experience, and self-kindness, which enhances the awareness and acceptance of pain, so that one can treat oneself compassionately (Arimitsu & Hofmann, 2015). Compassion-focused therapy contributes to experiencing fewer problems in socially-challenging situations and becoming more satisfied with life (Neff et al., 2020). It also decreases the negative emotions and enhances the positive emotions (Homan, 2016). It helps the patients, instead of avoiding annoying emotions, accept them compassionately (Neff et al., 2007). Self-compassion leads to increased self-kindness and decreased isolation. It is also known as a factor that improves mental health (Illner, 2019), reduces injuries, and enhances interpersonal relationships (Yang, 2016). Self-compassion improves compatibility (Bistricky et al., 2017), well-being, and emotional and psychological health (Khoury, Lecomte, Comtois, & Nicole, 2015). It helps the patients to replace criticism and blame with self-care (Shonin, Van Gordon, & Griffiths, 2014). Self-compassion is an inherent trait, but it can be improved by training (Raab, 2014). To date, clinical studies have confirmed the effectiveness of this type of therapeutic approach for reducing self-criticism and rumination (Gilbert & Procter, 2006). Evidence shows that self-compassion would help the patients to accept unpleasant changes and negative emotions in life from an objective point of view (Bluth, Gaylord, Campo, Mullarkey, & Hobbs, 2016). Numerous researchers have examined the effects of psychotherapeutic interventions on the mental health of patients with HIV (Pu, Hernandez, Sadeghi, & Cervia, 2020). But to date, self-compassion therapy has received less attention in patients with HIV,

especially women. Concerning the importance of mental health of HIV-positive women and the relatively high prevalence of some psychological disorders, such as rumination, self-criticism, and lack of mindfulness skills in them, self-compassion therapy may be effective for HIV-positive women, which highlights the need for further investigations on this topic, such as this study. The purpose of this study is to test two hypotheses: The first hypothesis is whether compassion-focused therapy would be effective on mindfulness of women with HIV and the second hypothesis is whether compassion-focused therapy would be effective for decreasing rumination in women with HIV.

## Method

This was a quasi-experimental study with pre-test and post-test phases and a control group. The statistical population of the study consisted of all HIV-positive women referring to Dr. Masih Daneshvari Hospital in 2018-2019. The patients were selected using targeted sampling. Following obtaining approval from the Research Council, 67 HIV-positive eligible women who were willing to participate in the study were selected and enrolled. There were 7 dropouts during the study period. The remaining 60 patients were randomly assigned to the experimental (n=30) and control (n=30) groups.

The inclusion criteria were age range of 20-55 years, having the required physical ability to fill out the questionnaires, literacy for reading and writing, the ability to understand and answer the questions, having a definite diagnosis of HIV confirmed by an infectious disease specialist, and no history of acute psychiatric disorders in the past year.

Since group therapy was practically incorrect for a group of 30 people, patients in the experimental group were divided into six subgroups of five.

Patients in the experimental group participated in nine sessions (90 minutes each) of compassion-focused therapy once a week, held by a trained researcher. Meanwhile, the control group was accurately monitored parallel to the experimental group. The selection of patients and administration of questionnaires in the control group was the same as in the experimental group. However, the control group did not undergo compassion-focused therapy. For ethical purposes, after the termination of the study, the control group was also scheduled for compassion-focused therapy. After completion of the compassion-focused therapy course for the experimental group, both groups participated in a post-test. Data were analyzed using descriptive and inferential statistics. The frequency, percentage, mean, and standard deviation values were reported for the variables. Statistical analysis was carried out using the analysis of covariance (ANCOVA) via SPSS version 22.

ANCOVA was separately performed in the pre-test and post-test phases for the experimental and control groups. It was also used to analyze the effect of self-compassion therapy on mindfulness and rumination in women with HIV.

### Ethical Statement

Regarding ethical considerations, it should be mentioned that all patients were briefed about the study, and their verbal and written informed consent for participation in the study was obtained prior to their enrollment. They were all ensured about the confidentiality of their information. Also, they were ensured that their data would be published anonymously. The intervention was performed by an experienced psychologist in a calm and stress-free environment. Also, the study was approved by the ethics committee of our institution (IR.IAU. TMU. REC. 1399. 065).

### Research instruments

Five-Facet Mindfulness Questionnaire (FFMQ):

This questionnaire was proposed by Baer et al. (2006) using a factor analysis approach. It consists of 39 items and five components. The components include observing, acting with awareness, describing, non-judging of inner experience, and non-reactivity. According to the results, the internal consistency of the components ranged from 0.75 (for non-reactivity) to 0.91 (for describing). The correlation between the components was significant in all cases and ranged from 0.15 to 0.34. Moreover, in a study carried out on the validation and reliability of this questionnaire in Iran, the correlation coefficients in the Iranian population were r=0.57 for non-judging of inner experience and r=0.84 for observing components. The Cronbach's alpha coefficients ranged from α=0.55 for non-reactivity to α=0.83 for describing components (Ahmed Vand, Heydari Nasab, & Shiri, 2013).

**Rumination Reflection Questionnaire (RRQ):** Trapne and Campbell (1999) designed this

**Table 1.** Summary of compassion-focused therapy sessions (Gilbert, 2009)

| Session | Purpose | Content of session | Assignment |
|---|---|---|---|
| First | Conceptualization | Familiarization of group members with each other, conceptualization and definition of compassion, introduction, and familiarization with compassion-focused therapy | |
| Second | Introducing the emotional system | Introducing three emotional systems and the way they affect individuals, focusing on the mind while being threatened, and having a compassionate mind. | Knowing the painful situation and active emotional system |
| Third | Familiarity with the characteristics of compassion and knowing a compassionate person | Explaining the sextet features of compassion, including sensitivity and self-care, well-being, empathy and sympathy, being non-judgmental, turmoil tolerance, defining a compassionate person, and his/her characteristics (wisdom, power, kindness, being non-judgmental, taking responsibility). | Paying attention to compassion components and compassionate persons in life |
| Fourth | Compassionate reasoning and attention | Use of soothing breathing rhythm, training the manner of visualization of compassionate self, practicing visualization of self as the best, performing the compassionate chair work (using the three-chair technique). | Paying attention to the difference between rumination and self-compassion by practicing the compassionate chair work and coping with self-criticism. |
| Fifth | Visualization and compassionate sensory experience | Introducing the power of visualization and its relationship with the three systems of self-compassion, visualizing creating a safe place, and compassionate coloring of the image. | Creating compassionate visualization while confronting pain. |
| Sixth | Writing a compassionate letter | Writing compassionate letters, practicing anger and compassion, practicing fear of compassion | Practicing anger and compassion to accept feelings and confront self-criticism. |

| Session | Purpose | Content of session | Assignment |
|---|---|---|---|
| Seventh | Working with a compassionate chair | Focusing on a chair to represent the thoughts and feelings and different parts of an individual (anger and compassion), to balance the individual's thoughts and express feelings along with mindfulness. | Practicing and creating compassionate thoughts and avoiding self-blaming. |
| Eighth | Visualizing the memory of an act of kindness | Focusing on and visualizing the memory of a kind person who created a feeling of kindness, and visualizing the kind feelings. | Practicing and visualizing the memory of an act of kindness |
| Ninth | Responsibility | Teaching responsibility as a fundamental component of compassion, creating valuable emotions and behaving appropriately and efficiently, evaluating the advantages and disadvantages of irrational thoughts and believes. | Practicing taking responsibility for the thoughts and feelings. |

questionnaire in order to distinguish between two components of repeated negative thinking, self-focus, and self-reflection. Repeated negative thinking is associated with unpleasant states such as anxiety, depression, and anger. The reflection component is associated with evaluation, focus, openness to experience, intellectual curiosity, and an innate interest in abstract or philosophical

**Table 2.** Results of ANCOVA regarding mindfulness and rumination in experimental and control groups

| Dependent variable | | SS | Df | MS | F | P | P. Eta. | Observed P. |
|---|---|---|---|---|---|---|---|---|
| Observing | Intergroup | 6.35 | 1 | 6.35 | 5.73 | 0.02 | 0.01 | 0.65 |
| | Intragroup | 56.53 | 51 | 1.10 | | | | |
| Describing | Intergroup | 3.20 | 1 | 3.20 | 2.63 | 11.0 | 0.04 | 0.35 |
| | Intragroup | 61.99 | 51 | 1.21 | | | | |
| Acting with Awareness | Intergroup | 1.36 | 1 | 1.36 | 1.83 | 0.18 | 0.03 | 0.26 |
| | Intragroup | 38.00 | 51 | 0.74 | | | | |
| Non- judging | Intergroup | 19.95 | 1 | 19.95 | 7.57 | 0.00 | 0.12 | 0.77 |
| | Intragroup | 134.37 | 51 | 2.63 | | | | |
| Non- reactivity | Intergroup | 13.15 | 1 | 13.15 | 5.25 | 0.02 | 0.09 | 0.61 |
| | Intragroup | 127.57 | 51 | 2.50 | | | | |
| Rumination, self-focus | Intergroup | 5.93 | 1 | 5.93 | 2.46 | 0.12 | 0.04 | 0.33 |
| | Intragroup | 122.63 | 51 | 2.40 | | | | |
| Rumination, self -reflection | Intergroup | 0.58 | 1 | 0.58 | 0.20 | 0.65 | 0.00 | 0.07 |
| | Intragroup | 150.08 | 51 | 2.94 | | | | |
| Total score of RRQ | Intergroup | 10.26 | 1 | 10.26 | 1.93 | 0.17 | 0.03 | 0.27 |
| | Intragroup | 270.87 | 51 | 5.31 | | | | |

thinking. This questionnaire consists of 24 items. Twelve items focus on obsession and rumination about oneself, and 12 items focus on self-reflective thinking and negative self-evaluation. The answers to the questions are scored based on a Likert scale. Optimal internal consistency values of 0.91 and 0.90 have been reported for reflection and repeated negative thinking, respectively. Watson and Harkis reported internal consistency of 0.81, and Ghorbani et al. reported internal consistency of 0.81 in Iran (Ghorbani, Watson, & Hargis, 2008). Table 1 presents a summary of compassion-focused therapy sessions.

## Results

The frequency percentage and demographic information of HIV-positive women:

The mean age of women with HIV was (38.73). In terms of educational level, 48.33% were below high-school diploma, (35%) had a high-school diploma, and (16.66%) had college or university education. Also, (6.67%) were single, (41.66%) were married, and (51.66%) were widowed or divorced. There was no significant difference between the experimental and control groups in terms of age or marital status of patients. The results of the largest usable root permitted the use of ANCOVA considering ($P<0.01$) using Pillai's trace, Wilks Lambda, and Hotelling's trace tests. The results of the Kolmogorov-Smirnov test revealed the normal distribution of data regarding the mindfulness and rumination components in both the experimental and control groups ($P <0.01$). The assumption of homogeneity of variances was met in both the experimental and control groups using Levene's test.

According to Table 2, there was an increase in the adjusted mean scores of mindfulness components of observing and non-reactivity ($P<0.05$) and non-judging to inner experience ($P<0.01$) in the post-test phase in the experimental group. There was no significant difference between the experimental and control groups in components of describing and acting with awareness. The results revealed that self-compassion therapy increased the components of observing, non-judging, and non-reactivity in mindfulness. Also, no significant difference existed between the experimental group and the control group in rumination and RRQ subdomains.

## Discussion

HIV, in addition to physical disorders, causes many psychological problems (Avanessian, Naserirad, Abrahamian, & Anis, 2017). Women with HIV experience negative emotions. Brion et al. (2014) assessed the effect of mindfulness on HIV-positive patients (Brion, Leary, & Drabkin, 2014). The present study was performed to determine the effect of compassion-focused therapy on the obsession and mindfulness of HIV-positive women. The results of the current study revealed that compassion-focused therapy had a positive impact on some components of mindfulness. These results were in line with the findings of Gilbert and Procter (2006), showing that compassion-focused therapy can be effective in reducing psychological problems and increasing compatibility. Mindfulness is one of the main components of self-compassion. In this regard, Bluth et al. (2016) carried out a study on the effectiveness of self-compassion and mindfulness for enhancing self-compassion in adolescents. The results revealed that compassion-focused therapy and mindfulness led to an increase in self-kindness (Bluth et al., 2016). Meanwhile, the results of the current study indicated that HIV-positive women who underwent compassion-focused therapy became more aware of the internal and external stimuli, and could more easily accept negative life events. They had more

desirable self-evaluations and at the same time, they became kinder to themselves. Thus, it can be concluded that compassion-focused therapy is effective in improving the mindfulness of HIV-positive women and can enable them to respond more consciously to stimuli, judge themselves fewer, accept their inner experiences, and react milder to themselves.

In addition, the results of the present study revealed that there was no significant difference between the experimental group and the control group concerning rumination components. Despite the increase in the mindfulness of HIV-positive women after compassion-focused therapy, their rumination did not change significantly by compassion-focused therapy. In this regard, Nolen-Hoeksema and Jackson (2001) addressed three points about rumination in women (Luminet, 2004). The first was about the women's beliefs about their negative emotions and difficulty in controlling them, which are associated with rumination. Women believe that negative emotions are too strong to be controlled, and they believe that more intense emotions depend on less controllable factors (like hormones). The second point is that women are more likely to make their sensations responsible for the relationships and carry the total burden of maintaining positive relationships with others by themselves. This belief is related to an increase in rumination. Emotional responsibilities in relationships make women aware of the slightest change in relationships. Thus, they always keep an eye on the opinions and behaviors of others and also think about others' happiness first. This condition may contribute to the development of rumination (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Thirdly, women feel that they have less control over the problems in their lives. Feeling control-less increases rumination (Bagheri Nejad, 2010). The results of the current study did not match the results of a study reporting that combined intervention of mindfulness and self-compassion on Chinese women decreased perfectionism and rumination, and increased compatibility (Finlay-Jones, Xie, Huang, Ma, & Guo, 2018). Also, the current findings contradicted the findings of the study indicating that people with more self-compassion had less rumination in socially-challenging situations (Raes, 2010). Having explained these findings, it can be stated that most women with HIV experience many negative emotions after being diagnosed with this disease, and might even refuse to receive treatment. Compassion-focused therapy is an important factor in increasing positive emotions, and decreasing negative emotions (Braehler & Neff, 2020). Thus, it appears that some factors such as intense and uncontrollable emotions, e.g. fear of losing a relationship, and inability to overcome problems caused by the disease, would inhibit the effect of self-compassion on rumination in women with positive HIV, the reality which needs further investigations (Travaglini, Himelhoch, & Fang, 2018). Thus, women with HIV are more focused on the causes of the disease, feel less in control, and are always worried about the consequences of their disease and their impact on their relationships.

## Conclusion

The current results suggest that compassion-focused therapy may be effective in increasing the mindfulness components (observing, non-judging, non-reactivity to inner experience) in women with HIV. The current study revealed that compassion-focused therapy may be applied as a psychotherapeutic approach to improve the psychological symptoms of women with HIV.

One limitation of this study was that the results can only be applied to the current statistical population and cannot be generalized to other communities. Another limitation was that it was a single-center study and the samples were derived from the

population of patients presenting to only one hospital. The difficult training process due to the physical condition of women with HIV was another limitation, which led to extended multiple sessions. However, because of the importance of the topic, it was tried to hold the sessions at the most appropriate time as much as possible. Further studies on larger sample sizes and more diverse populations are recommended. Compassion-focused therapy is recommended as a psychotherapeutic approach to improve the psychological symptoms of HIV patients.

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