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***Original Article***

# The effectiveness of compassion-focused therapy on anxiety caused by romantic breakup: Single case

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***Abstract***

**Introduction:** The purpose of this study was to investigate the effect of Compassion-Focused Therapy (CFT) on anxiety caused by romantic breaking up in young girls.

**Materials and Methods:** In this study conducted in 2021 in Isfahan, Iran, three female participants with the experience of breaking up a romantic relationship were selected by the convenient sampling method. They underwent individual compassion-focused therapy during eight 90-minute sessions. Participants fulfilled Beck Anxiety Inventory (BAI), Love Trauma Inventory (LTI) and the Minnesota Multidimensional Personality Questionnaire (MMPI 2-RF). The data were analyzed by baseline change index, visual mapping, and recovery percentage formula.

**Results:** In the post-treatment and follow-up stages, the improvement rate in the anxiety variable was 53% and 58% in the first, 63% and 75% in the second, and 36% and 18% in the third participants, respectively. Thus, the overall recovery rate for all three participants was 50%, indicating treatment success.

**Conclusion:** It can be concluded that compassion-focused therapy enhances the relief system, which is associated with feelings of calm, satisfaction, and security, and helps people relax in time and humiliate their inner conversation. Hostility changes into warmth and friendliness, and all of these factors reduce people's anxiety.

**Keywords:** Anxiety, Compassion, Relationship breakup

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## Introduction

Romantic relationships are one of the main aspects of human life and can meet people's basic needs about belonging (1). Unfortunately, maintaining romantic relationships can be challenging, and separation can occur, leading to several negative consequences, including increased feelings of insecurity, emotional distress, and poorer physical health (2). At the relationship level, the experience of separation and severance creates intense anxiety, especially when the individual's ex-partner has played a vital role in social support (3). Anxiety is a widespread, unpleasant, and often vague feeling of fear and anxiety accompanying one or more physical feelings (4). Such as a feeling of

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emptiness in the heart, shortness of breath and chest, palpitations, sweating, headache, a sudden urge to urinate, restlessness, and a desire to move; this unpleasant feeling can be accompanied by many emotional and psychological symptoms (5). Most people experience fear, worry, and ambiguity about their lives after the separation of their romantic relationship, so they feel powerless to face such issues (6,7).

Compassion and self-compassion are psychological factors associated with anxiety problems (8). Compassion-focused therapy is a suitable therapeutic opportunity for individuals with a damaged capacity to form an meaningful interactions with themselves and others (9). It is a motive, integrated and multi-phase approach to acting with shame and self-criticism (10) created for individuals with complicated psychological problems (11,12). According to the principles of compassion-based therapy, compassion is defined as "sensitivity to self and others` suffering via an attempt to decrease and prevent the sufferings" (13). Compassion-based therapy helps applicants activate self-care processes and physiological systems, decreasing threat and self-criticism and increasing peace, confidence, and feelings control (14).

Research has also shown that compassion-based therapy improves anxiety symptoms in adolescents and adults (15-21). Compassion-based meta-analytical treatments have shown that these treatments significantly improve compassion and significantly decrease the symptoms of anxiety, depression, and stress (22-24). Most of the research done on the issue of breaking up the romantic relationship has been in the form of effective group training without a follow-up period. Because previous research has generally used cognitive or absolute emotion-based approaches, compassion-focused therapy, with its evolutionary perspective, integrates all aspects of therapy by talking about the experience of a romantic breakup. It can be difficult for people, so it was decided to treat compassion-focused therapy individually, which will help clients express their feelings more efficiently and evaluate long-term effects with a follow-up phase. So, the main question of this study is whether compassion-focused therapy can be effective on anxiety caused by a romantic relationship breakup?

## Materials and Methods

The method of the present study method was a single-experimental semi-experimental method of type A-B. The statistical population of the study consisted of all young girls in Isfahan-Iran in the summer quarter of 2021 experienced romantic relationship breakup. The sample size was considered according to the sampling logic in case studies of three people (21,25). Inclusion criteria included 1) aged 18-30 years as a result of a strong desire to form a romantic relationship, 2) have a history of 6-month to a 1-year romantic relationship with the opposite sex, 3) have a non-consensual breakup in the relationship, 4) A 3-month interval since the breakup, 5) have a score of 20-30 in the Love Trauma Inventory Questionnaire, and 6) complete and voluntary consent to participate in the study. The exclusion criteria included 1) receiving a psychotherapy course or medical therapy via the treatment, 2) having a serious plan to commit suicide, 3) entering into a relationship with another person during treatment, 4) absence in more than two sessions, 5) not doing the assignments, and 6) substance abuse and severe disorder in one or two axes (such as psychosis, bipolar disorder or personality disorder).

The present study was started via call playback in a research project on social networks for girls with a romantic relationship breakup at the counseling center of Isfahan University in the summer of 2021. According to the criteria, volunteers were screened and interviewed to diagnose any personality and clinical disorder via MMPI-RF2. They then filled out the love trauma questionnaire to determine distress after a romantic relationship breakup.

Finally, three participants were selected out of 65, filling out the anxiety questionnaire according to the principles of a simple line through the one-week interval. Then, they participated in eight 90-minute sessions once a week by compassion-based therapy according to the instruction of the book "mind training for compassionate" (26). Participants filled out the anxiety questionnaire throughout the treatment process in the 1st, 2nd, 4th, and 8th weeks. They fulfilled the questionnaire on four bases via a week interval in the follow-up stage. The protocol of eight sessions can be observed in Table 1.

**Table 1.** Compassion-focused therapy treatment

| Sessions | describing therapeutic treatments |
|---|---|
| First Session | Identify details of the relationship and disconnection process, special motivational interview, and compassionate life scenario treatment |
| Second Session | Incorporate compassion into clients' personal formulations |
| Third Session | Identification of emotional systems: Training in mindfulness exercises and homework |
| Fourth Session | Emphasis on the main currents of compassion and fear of compassion: Mindfulness exercises, compassionate visualization exercises, visualizing a compassionate other, compassion exercises in the mirror, working on fear of, and reviewing the assignments of the previous session |
| Fifth Session | Identifying the self-critical coping styles: Visualizing the blaming and critical other, the metaphor of two teachers, nurturing of the compassionate self, and mindfulness exercises |
| Sixth Session | Working on multiple Selves and identifying emotions: Mindfulness exercises, increasing awareness of threat system emotions, emotion regulation strategies, ship captain metaphor, dialogue between the multiple selves, accepting emotions |
| Seventh Session | Assessment and identification of compassionate skills: (Attention, thinking, feeling, excitement, behavior) and teaching compassionate letter writing |
| Eighth Session | Review, conclusion, and ending of the session: Reviewing the assignment of the previous session (letter), managing fears and obstacles against the flow of compassion, and receiving feedback from the authorities |

The participants were participated voluntarily and consciously. They were completely aware of the methodology, the aim of the study, possible damages, achievements, nature, and duration of the study. In addition, the supervisor monitored all stages of the study.

Free therapeutic sessions and hurt to the participants were considered a priority. Furthermore, the present study was approved by the ethics committee of the University of Isfahan (ID: IR.UI.REC.1400.053).

Research instrument

*A) Love Trauma Inventory (LTI):* It was developed by Ross (27) to measure the severity of love trauma and consists of multiple-choice items. This questionnaire via 20 cut-off points is a general assessment of physical, emotional, cognitive, and behavioral disturbances. Based on the Likert method, it is scored in 0-3 scores, and only questions 1 and 2 are scored inversely.

The total scores are a sign of love trauma. The scores of 20-30 suggested a severe trauma impacting the life quality and social, educational, or professional function, and the individual suffers from psychological discomfort. The scores of 10-19 indicated a love trauma but tolerable, and the scores of 0-6 indicated a love trauma but controllable with no severe impact on life quality. The reliability and validity were reported at 0.81 and 0.84, respectively (27).

The reliability via the α-Cronbach method in a sample and validity via the retesting method in the group by a week interval was 0.81 and 0.83, respectively (28).

*B) Minnesota Multidimensional Personality Questionnaire (MMPI-2RF):* It includes 50 scales composed of 8 validity scales, three failure scales,

nine clinical scales, 25 content scales for specific problems, and a personality pathology scale based on 338 two-choice questions with zero and one raw scores converted to level scores by which the lack of elevation, mild elevation, and severe elevation can be observed (29).

American Psychological Association and Psychological Commission mentioned it as a complete tool (30). Nowadays, it is considered the complete psychological tool that presents personality profiles, personality disorders, and psychopathology as the psychological effects in 50 clinical indices via five different forms. Some psychologists believe that MMPI-2RF should be applied as a novel approach in the psychological section.

It is presented via detailed clinical indices, psychological effects, physical problems with a psychological basis, personality disorders, and psychological problems related to psychotherapy (31,32).

In Iran, this scale was validated by Kamkari and Shokrzadeh on 120 MA physical education students of the Islamic Azad University of Tehran branch.

The credit factors were evaluated more than 80% via the α-Cronbach coefficient method for clinical indices (5 subscales). As a result of twice interviewing 30 individuals, valid documents were valid. It was accomplished by calculating the correlation in scores of students in the clinical interview via a focus on IRC subscales to 9 RC. The results indicated that the correlation coefficients were 0.50-0.65 suggesting acceptable reliability and validity (33).

*C) Beck Anxiety Inventory (BAI):* It has been developed to measure anxiety symptoms composed of 21 items (34). The questionnaire is scored based on the Likert scale as follows: mild (1), medium (2), and severe (3). The cutting-off points suggested for the questionnaire are as follows: the scores 0 to 15 suggest mild anxiety, 16-25 indicate moderate, and 26 to 43 suggest severe anxiety. The internal consistency, reliability via the retesting method, and correlation of this questionnaire were 0.92, 0.75, and 0.30-0.76, respectively (34). In Iran, the validity coefficient via retesting method was 0.80-0.83, and α-Cronbach was reported at 0.92 (35). This study applied descriptive statistics (average and standard deviation) and visual analysis (Reliable Change Index (RCI)) to report and interpret the results. In this formula, the pre-test score is subtracted from the post-test score, and the result is divided by the pre-test score. According to Blanchard's formula, an improvement of 50% indicates a reduction or improvement in symptoms as a success in treatment, and a score of 25 to 49% suggests a slight improvement. Finally, a decrease or improvement in symptom scores below 25% is considered a failure in treatment (36). Blanchard`s formula (36) is as follows:

A0= Obstacle problem at the beginning of therapy, A1= Obstacle problem at the end of therapy, and A%= Recovery rate. A%=A0-A1/A0 A%=A0-A1/A0

## Results

Table 2 indicates the participants' demographic characteristics.

**Table 2.** Demographic specifications of the three participants

| | Age (Year) | Education | Duration of the relationship | The amount of time passed after the breakup | Love Trauma Score |
|---|---|---|---|---|---|
| First participant | 20 | Undergraduate student | 6 Months | 7 Months | 20 |
| Second participant | 21 | Undergraduate student | 10 Months | One year | 23 |
| Third participant | 24 | Masters' student | 6 Months | 8 Months | 21 |

Table 3 shows the treatment process of all three participants, scores, and standard deviation of baseline, treatment, and follow-up. Also, RCI, Percentage of Non-Overlapping Data (PNOD), and Percentage of Overlapping Data (POD) indices, percentage of improvement in treatment, and follow-up stage in anxiety variable have been reported.

**Table 3.** The scores and the process of changing in the anxiety variable

| | Assessment | First participant | Second participant | Third participant |
|---|---|---|---|---|
| Baseline | Baseline1 | 29 | 12 | 13 |
| | Baseline2 | 27 | 10 | 10 |
| | Baseline3 | 25 | 11 | 13 |
| | Baseline4 | 25 | 10 | 9 |
| | Baseline M | 26.5 | 10.75 | 11.25 |
| | Baseline SD | 1.91 | 4.69 | 0.81 |
| Treatment | Treatment1 | 18 | 9 | 7 |
| | Treatment2 | 13 | 5 | 8 |
| | Treatment3 | 10 | 2 | 9 |
| | Treatment4 | 7 | 2 | 5 |
| | Treatment M | 12 | 4.5 | 7.25 |
| | Treatment SD | 0.95 | 3.31 | 0.57 |
| | RCI | 3.50 | 2.20 | 1.96 |
| | Recovery Rate | 53% | 63% | 36% |
| | Total recovery Rate | 50% | | |
| Follow up | Follow up1 | 6 | 0 | 6 |
| | Follow up 2 | 5 | 1 | 7 |
| | Follow up 3 | 5 | 0 | 6 |
| | Follow up 4 | 4 | 1 | 5 |
| | Follow up M | 5 | 0.5 | 6 |
| | Follow up SD | 2.06 | 1.70 | 0.81 |
| | RCI | 2.55 | 2.10 | 0.96 |
| | Recovery Rate | 58% | 75% | 18% |
| | Total recovery Rate | 50 % | | |
| | PND | 100% | 100% | 75% |
| | POD | 0% | 0% | 25% |

M: Mean, SD: Standard Deviation, RCI: Reliable Change Index, PNOD: Percentage of Non-Overlapping Data, POD: Percentage of Overlapping Data

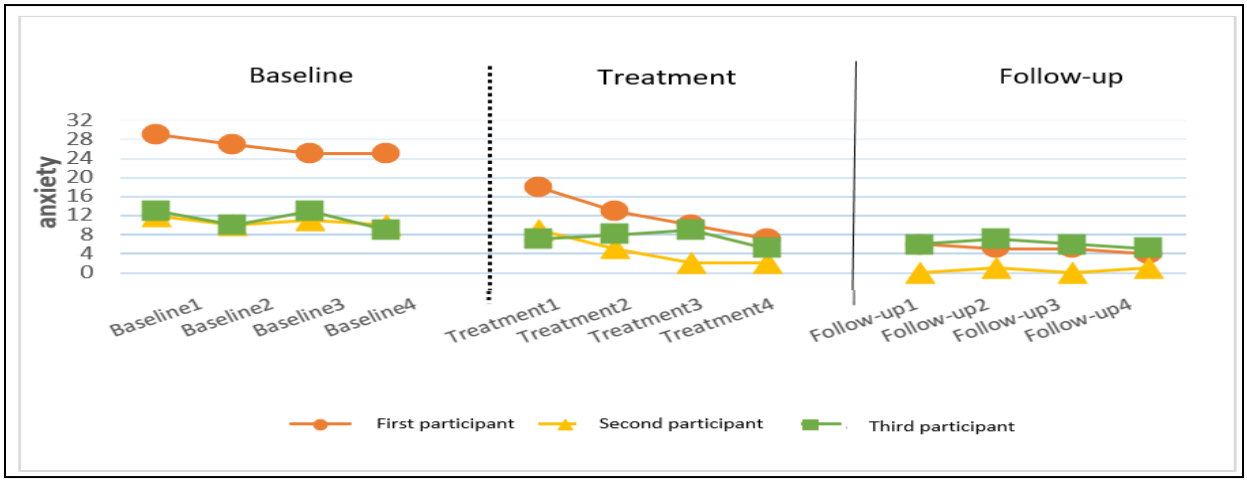


**Figure 1.** The process of changing in the anxiety variable

As shown in diagram 1, compassion-based therapy successfully affects anxiety in participant 1 (PND= 100%, POD= 0%). RCI index was determined to be 3.50 and 2.55 in the intervention and follow-up stages, respectively (z< 1.96), and considering the significance (*P*< 0.05), the intervention was successful. The improvement percent index was determined at 53% and 58% in the intervention and follow-up stages, respectively, for Participant 1.

This index suggested that Participant 1 have experienced a good and effective improvement in the intervention and follow-up stages of the treatment procedure. For Participant 2, compassion-based therapy was effective after the event (PND= 100%, POD= 0%). RCI index was 2.20 and 2.10 in the intervention and follow-up stages, respectively (z< 1.96). Considering the significance (*P*< 0.05), it was effective. The improvements index was 63% and 75% in the intervention and follow-up stages. It suggested a good and successful improvement during the treatment procedure. For Participant 3, compassion-based therapy impacted growth significantly after the event (PND= 75%, POD= 25%). RCI index was 1.96 and 96% in the intervention and follow-up stages, respectively (z< 1.96), and considering the significance, it was effective (*P*< 0.05). In addition, the improvement index percent was 36% and 18% in the intervention and follow-up stages for Participant 3, indicating a medium improvement in the intervention stage and weak improvement in the treatment procedure. The overall improvement in intervention and follow-up stages was 50% for all three participants. Therefore, it can be concluded that compassion-based therapy can improve anxiety resulting from love relationship breakup.

## Discussion

The findings of this study were consistent with the findings of Shiralinia et al. (15). They selected four divorced women through the convenience sampling method. The subjects participated in eight intervention compassion-focused treatment sessions, some baseline steps, and two follow-ups. The Beck Anxiety Inventory and Beck Depression Inventory were used. The Permanent Change Index, Visual Drawing method, and Percentage Improvement Formula analyzed the data. The findings indicated that anxiety and depression symptoms of divorced women were significantly decreased by compassion-focused therapy. A 2 or 4 weeks follow-up showed the therapeutic changes' sustainability. These results revealed that anxiety and depression in divorced women were significantly affected by compassion-focused therapy. Therefore, this therapy is suggested to psychotherapists and family therapists as a new method and a beneficial intervention for decreasing anxiety and depression (15). A study on 30 girls of Kurdistan University in 2014-2015, through Depression, Anxiety, and Stress Scale (DASS) indicated that therapy focused on compassion affected improving anxiety, depression, and stress (16). Ahmadi et al. studied thirty patients (one experimental group and one control group) from among all vitiligo women through Hospital Anxiety and Depression Scale (HADS), Zigmond and Smith (1983), suicidal via Beck Scale for Suicide Ideation (BSS). The experimental group attended biweekly eight successive sessions (60 minutes) of group-based Compassion-focused Therapy. The control group did not receive any intervention until the end of the follow-up phase. The findings indicated that compassion-focused treatment affected depression, anxiety, and suicide ideation compared to the control group (37). Yela et al. evaluated 61 adults (88.5% women) attending postgraduate clinical and health psychology courses who participated in an 8-week MSC program. Their anxiety and depression symptoms, mindfulness, self-compassion, and well-being levels were evaluated before and after the treatment. Two groups were formed considering the participants' adherence to the MSC program: high (n= 30) versus low (n= 31). The subjects in the high-adherence group benefitted from the MSC program since they enhanced their mindfulness, psychological well-being, and self-compassion scores. The extent to which the subjects reported to have been committed to the MSC practice was related to changes in mindfulness, self-compassion, and psychological well-being. Moreover, the changes in self-compassion were significantly associated with changes in psychological well-being and mindfulness. The MSC program offers a promising way to develop

professional competencies and increase the well-being of trainees in clinical psychology (38). Brito-Pons et al. evaluated the effect of Compassion-based Interventions (CBIs) on anxiety, depression, life satisfaction, stress, mindfulness, empathy, self-compassion, happiness, compassion for others, and identification with all humanity, through a wait-list randomized controlled trial in a community sample (study 1). Secondly, the present study addressed the question: Does a CBI—an explicit compassion training—have a differential effect regarding compassion, empathy, and identification with all humanity, compared to a mindfulness-based intervention (Mindfulness-based Stress Reduction (MBSR) in which compassion is taught implicitly? (Study 2). Groups were evaluated at baseline, post-intervention, and 2-month follow-up. Compared to the wait-list group, CBI participants indicated significant improvements in psychological well-being (reduced stress and depression, mindfulness, happiness, life satisfaction, and self-compassion) and compassion skills. Both MBSR and CBI were influential in increasing psychological well-being and enhancing mindfulness and compassion. Still, CBI had a greater effect on developing compassionate skills, particularly identification and empathic concern with all humanity. The present study highlights the possibility of a complementary (rather than competitive) relationship between compassion-based interventions and mindfulness (18). In addition, another randomized controlled study that was carried out to evaluate the impact of mindfulness and compassion therapy on depression and anxiety was indicated to be in line with this study, which improves depression and anxiety symptoms. Negative emotions and daily functioning have become clients (39).

Explaining this result, it can be mentioned that for several people who have psychological disorders, the system of self-protection and threats suffers from a kind of extreme overwork, which leads to high levels of anxiety and stress in these people. Besides, the security system has a lower level of development in these people, since they have never had the chance to change this system. Compassion-based treatment for these people acts like physiotherapy of the mind, i. e., by stimulating the security system, it provides the ground for its transformation. Transforming this system enhances flexibility against depression and anxiety (40).

The findings of this study indicated that after undergoing compassion-focused treatment, clients notice a change in status and inner dialogue from a state of hostility and humiliation to a state of friendship and warmth, finally decreasing their anxiety and further relaxation. Compassion is defined as an intrinsic motivation that evolved from the motivational care system in mammals in compassion-focused therapy. This system sensitizes human beings to their own and others' suffering and generates a commitment in them to decrease and hinder these sufferings. In compassion-focused treatment, emotions are categorized into three central systems of emotion regulation (threat system, motivation system, and relief system), which developed in humans and other animals to facilitate the opportunity for survival and reproduction (41). Neurophysiological evidence has indicated activating the threat system with physiological arousal, interfering with neural structures related to metacognitive functions and theory of mind function (forehead-amygdala), and processing social-emotional stimuli. Therefore, reducing a person's capability is associated with higher-order cognitive capacities. Conversely, the palliative care system is related to the parasympathetic nervous system activation, which gives the individual a sense of security, supports the social functioning of the brain, enhances the ability of the forehead cortex to activate, increases metallization capacity, and strengthens the regulation of emotions. Significantly, this research has consistently indicated that compassion education is correlated to inhibition of the default neurophysiological response, higher heart rate variability, and parasympathetic nervous system activation (42).

This study, like other studies, has limitations. For example, in this study, the samples were girls, which reduces the possibility of generalizing the effectiveness of this treatment to boys. In addition, the repetition of the questionnaire in several stages reduces the validity of the test to some extent. One of the treatment criteria in this study was that the participants did not have a severe disorder one or two axes. Therefore, caution should be exercised in generalizing the

results of this study to people with disorders. It is recommended that compassion-focused therapy be performed on people who have experienced a romantic breakup and personality disorder. It is suggested that to prevent the severity of the problems caused by the severance of a romantic relationship and to increase the performance of individuals, models, and programs in premarital communication, training should be done.

## Conclusion

Training compassion-based therapy help people to endure distress, concentrate and diagnose the clinical interventions for the clients in various clinical scenarios. The adjusting of dynamic systems adjusts anxiety and decreases psycho pressure. Positive training provides the opportunity to involve clients via complete attention and presence and allows the client to accept both painful and compatible aspects of the process.

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