Comparing the Effectiveness of Behavioral Activation and Metacognitive Therapy on Depression, Cognitive Emotion Regulation, and Assertiveness Strategies in Women Victims of Domestic Violence

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ARTICLE INFO	ABSTRACT
  OPEN ACCESS **Corresponding Author:** Zahra Simi z.simin00@yahoo.com	**Background:** Domestic violence is a social and behavioral problem affecting almost half of females. This study aimed to compare the effectiveness of behavioral activation and metacognitive therapy on depression, emotion regulation strategies, and assertiveness in women victims of domestic violence. **Methods:** The quasi-experimental design of the study was pretest-posttest with a control group. The statistical population included all female victims of domestic violence who referred to family counseling clinics under the supervision of Shiraz Welfare in 2019. This study was conducted on 45 people, who were selected using random sampling method and assigned to experimental and control groups. The measurement tools included the Beck Depression Inventory, Assertiveness Inventory, Cognitive Emotion Regulation Questionnaire, and Domestic Violence Against Women Questionnaire. The data were analyzed using multivariate analysis of covariance (MANOVA) and Kolmogorov-Smirnov test to check the normality of data distribution and the Levene test was applied to test the homogeneity hypothesis of group variances. **Results:** The mean age of participants was 36.58 ± 11.31 in behavioral activation group and was 35.17 ± 7.54 in metacognitive therapy group, and their marriage duration was 6.23 ± 2.89. The results demonstrated that behavioral activation therapy improved components of self-blame, blame others, repetition and positive concentration, assertiveness and depression, and metacognitive therapy components of self-blame, acceptance, cognitive emotion regulation strategies, positive focus, assertiveness, and improved depression ($P < 0.05$). However, there was no significant difference between the effectiveness of behavioral activation and metacognitive therapy ($P < 0.05$). **Conclusion**: Behavioral and metacognitive activation therapies can be used to improve mental health and teach coping skills to women victims of domestic violence, educational and therapeutic planning. **Keywords:** Emotion Regulation, Depression, Assertiveness, Domestic Violence

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Introduction

Violence can be towards oneself, another or a society. When the victim of violence is another person but not a community, it is called interpersonal violence. Intimate partner violence is a subset of interpersonal violence whose victims are mostly women (1). Domestic violence is one of the essential types of violence. Domestic violence includes aggressive and repressive behaviors, as well as physical, sexual, and psychological attacks, and the economic pressure exerted by an adult or young person on a person with a close and intimate relationship (2). Intimate partner violence against women is rooted in gender inequality and currently considered a violation of women's human rights (3). One in three women worldwide has been subjected to domestic violence during their lifetime (4). Research evidence shows that Iranian women who are subjected to domestic violence show a significant decrease in their self-efficacy and self-esteem (5). The psychological harm caused by violence perpetrated by a close family member or partner is greater than that caused by violence perpetrated by a stranger, since it comes from someone the victim trusts and cannot be considered an attack (6). Studies have shown that women victims of domestic violence experience cognitive changes, emotional numbness, and avoidance of interpersonal relationships (3). They show characteristics such as low self-esteem, family and social isolation, dependence (economic and emotional), insecurity, feelings of inferiority, submissiveness (7), which negatively affect their quality of life, leading to anxiety, stress, and depression (8). Active participation among women who experience spousal violence may be challenging due to the violence limiting their participation. Spouses who commit domestic violence restrict their female access to social protection, medical independence, financial freedom, decision-making, and mobility (9).

Women who have been the victim of psychological harassment by their family members have different patterns of emotional self-regulation, including emotional instability and automatic emotions (10). Emotion regulation is the process by which people become aware of what emotions they are experiencing, when they are experiencing, and how they are expressing (11). Periodic ineffective emotional regulation (i.e., emotional disorder) can be a normative process and most people experience at times. Chronic and pervasive emotion disorders are characterized by (a) above-average emotional sensitivity, b) higher emotional response, and (c) a slower return to the emotional base. Mood-related factors may be learned over time through chronic and unbearable reactions from others, including various forms of abuse and harassment (12). Women victims of domestic violence exhibit three different patterns of emotional regulation, including emotional regulation, avoidance/non-poor, and emotional repression. Women who exhibit emotional repression experience more severe post-traumatic stress disorder symptoms (13).

The expression variable can also play a role in domestic violence. An expression of feelings enables a person to defend himself, be free of anxiety, express his true feelings honestly, and claim his rights based on others' rights (14). Some factors, such as the lack of bold behavior toward an emotional partner, can lead to domestic violence. These women are silent and obedient to their husbands, feel inferior, and lack human rights. They admit their mistakes and take responsibility for their husbands' actions even when they have not committed a mistake (14). The wife's assertive behavior towards her husband leads to the prevention of domestic violence, which makes the marital relationship closer and more intimate, since assertive behavior leads to more marital satisfaction and vice versa (15).

Two methods of behavioral activation therapy and metacognitive therapy were used to improve the psychological skills of women victims of domestic violence, and their effectiveness was compared in this study. Activation therapy focusing on people's behaviors and activities seems an excellent option to reduce psychological

problems and improve their emotional and behavioral skills (16). Behavioral activation therapy is a form of pure behavioral therapy for increasing behaviors leading to rewards for the patient. This treatment is primarily used to improve depression and cognitive emotion regulation strategies (17). According to research, spousal violence frequently occurs due to the nature of the relationship between victim and perpetrator, and vulnerable women face difficulties in building effective social and supportive relationships in poor mental health and face limitations in daily activities (18), which negatively affects their behavioral activation. Behavioral activation can create positive emotions such as pride, pride, and insight, supporting people against negative life events and increasing their resistance to those events (19).

The second treatment is metacognitive therapy, which is a purely cognitive approach emphasizing the cognitive process (processing styles and dysfunctional thinking control) instead of focusing on cognitive content (20). Metacognitive therapy significantly reduces in symptoms of depression, anxiety, interpersonal problems, and disturbes metacognitive anxiety and beliefs (21). Research has shown that behavioral activation (22, 23, 24, 25, 26, 27, 28) and metacognitive therapies (29. 30, 21) are modern approaches for treating depressive disorder, which improve emotional and cognitive regulation strategies, as well as assertiveness skills in individuals (22. 23. 31, 32).

Mental health-based interventions can reduce the increased risk of victimization by treating mental health problems among survivors of spousal violence (33). In recent decades, various interventions or strategies have been implemented, including educational, supportive, and legal measures to adequately address the issue of domestic violence against women. However, to effectively treat women affected by domestic violence, it is crucial to use a treatment package that improves cognitive skills, regulates emotions, prevents and improves depression, and teaches expression skills. As a result, the present study aimed to investigate the effectiveness of behavioral and metacognitive activation therapy on depression, cognitive strategies for emotion regulation, and assertiveness in women victims of domestic violence in Shiraz.

Methods

This quasi-experimental study was conducted in the form of pre-post-test with a control group. The statistical population included all women victims of domestic violence who referred to family counseling clinics under the supervision of the Shiraz Welfare Organization in 2019. A total of 45 people were selected using the convenience sampling method and randomly assigned to experimental and control groups (15 people in each group). The sampling method was such that 85 women victims of domestic violence were selected as available. In the next step, all 85 women completed the Beck Depression Scale, and 60 were identified and screened based on the cut-off point of 19 and above (moderate depression). They were clinically interviewed, and finally, 45 were selected as the primary sample. The experimental groups included the behavioral activation and metacognitive therapy groups. The control group did not receive any intervention. The inclusion criteria were obtaining a high score in the domestic violence questionnaire (a high score of 76 based on the cut-off point of the questionnaire), the age between 20 and 45 years, being a victim of domestic violence for at least six months, completing a treatment consent form, having no physical or illness-related disabilities and suffering from depression based on Beck depression questionnaire and clinical interview. The exclusion criteria were unwillingness to participate in treatment, absence of more than two sessions, and receiving psychiatric and psychological intervention simultaneously. The criteria for diagnosis and selection of sample individuals included passing several stages. The assessment tools included the following questionnaires.

Cognitive Emotion Regulation Questionnaire (CERQ): This multidimensional questionnaire was developed by Granefski et al. (2001), which is a self-report tool with 36 items and a particular form

for adults and children. In this research, a special form for adults was used. The cognitive emotion regulation questionnaire evaluates nine strategies of self-blame, other blame, rumination, catastrophizing, acceptance, putting into perspective, positive refocus, refocus on planning, and positive reappraisa. The questionnaire scoring is based on the Likert scale including never (1), rarely (2), sometimes (3), often (4), and always (5). Granefski et al. (2001) mentioned good validity for this scale. The Cronbach's alpha coefficient for the subscales of this questionnaire was reported by Granefski et al. (2001) from 0.71 to 0.81 (36) (34). In Hashmlu and Sobhi (2021) study, Cronbach's alpha for this questionnaire was 0.84 (35). The correlation of cognitive regulation subscales score of the emotion questionnaire with the score of the depression, anxiety and stress scale (DASS) indicated that DASS score had a significant positive correlation coefficient with self-blame, other blame, catastrophizing, rumination, and acceptance, and had a significant negative relationship with subscales of positive refocusing/planning, positive reappraisa, and putting into perspective (36). The Cronbach's alpha of the questionnaire was obtained in this study as much as 0.71 to 0.81.

Beck Depression Inventory (BDI-II-2): This 21-item questionnaire was first developed by Beck et al. (1961). This questionnaire was designed to measure the severity of depression in adults and adolescents aged 13 years and older. The Beck Depression Inventory 2 (BDI-II) has 21 items, and each item consists of 4 sentences, in one of which a line should be drawn showing their feelings and behavior. Each item is scored from 0 to 3, and participants in this questionnaire can get a score between 0 and 63 (37). In the study by Lee et al. (2017), the reliability of the scale using Cronbach's alpha method was reported as 0.89 and its concurrent validity with the patient health scale was reported as 0.75 (38). The convergence validity values of Beck Depression Inventory Form with 21 questions through its simultaneous implementation with the Beck Hopelessness Scale (1988), Scale for Suicide Ideation (1979), and

Beck Anxiety Inventory (1993) were 0.68, 0.37, and 0.60, respectively (39). The reliability of this questionnaire in a sample of 94 people in Iran was as follows: Cronbach's alpha coefficient (0.91), the correlation coefficient between the two halves of the test (0.89), and the retest coefficient (0.94) (40). In this study, the Cronbach's alpha of the questionnaire was obtained as much as 0.86.

Expression Questionnaire: This questionnaire was prepared by Gambril and Reggie (1975) with 40 main items. Some of these questions were modified due to non-compliance with Iranian culture and reached 22 questions. This test has several series of questions: a) rejecting the demand, b) expressing personal limitations, c) taking the lead in initiating a social approach and expressing positive emotions, c) coping and accepting criticism, h) being different from each other, h) expressing yourself in situations needing help, and x) negative feedback. There is a high correlation between test materials in terms of reliability. Gambrill and Riggie (1975) have reported the reliability coefficient to be 0.81 and the operating load of different test materials is between 39 and 70%. The reliability of this questionnaire in the research conducted by Naghashzadeh et al. (2020) was obtained using Cronbach's alpha of 0.87 (41). In this study, cronbach's alpha of the questionnaire was obtained as much as 0.80.

Domestic Violence against Women Questionnaire: This questionnaire was developed by Mohseni Tabrizi et al. (2012). In this questionnaire, the data collection tool includes a form for recording demographic information, consisting questions from 1 to 10. In addition, questions about measuring types of spousal abuse, patriarchal beliefs, traditions, family upbringing, and learning about violence are included in this questionnaire with 60 questions. This questionnaire has 71 items. The scoring method of this questionnaire is based on a 5-point Likert scale. The reliability coefficient of the questionnaire by Cronbach's alpha method was reported as much as 0.81 in the study by Mohseni Tabrizi et al. (2012) (42). In this study, Cronbach's alpha of the

questionnaire was obtained 0.90.

Research Implementation Process

The subjects in experimental and control groups responded to the research tools in the pre-test phase. Treatment sessions included behavioral activation therapy (taken from the protocol designed by Dimidjian et al. (43), and Martell et al. (44) including 8 sessions) and metacognitive therapy (taken from the protocol designed by Wells (45) including 8 sessions). Each of treatments lasted for 90 minutes held once a week. During this period, the control group did not receive any type of intervention. After 8 treatment sessions, all sample subjects (experimental group and control group) were tested in one session. The

descriptive statistics methods, including mean and standard deviation of research variables, and inferential statistics, including multivariate analysis of covariance (MANOVA), were used using SPSS software version 21 to analyze the data. The Kolmogorov-Smirnov test was used to check the normality of data distribution to test the assumptions. The Levene test was used to test the assumption of homogeneity of variances of groups.

Results

The mean and standard deviation in the behavioral activation treatment group was 36.58 ± 11.31, in the metacognitive treatment group was 35.17 ± 7.54, and in the control group was 34.75 ± 7.75.

Table 1. Results of MANOVA for the effectiveness of behavioral and metacognitive activation therapy on dependent variables

Source	Dependent variable	SS	Df	MS	F	P	Eta
Pre-test	Self-blame	3.3	1	3.3	15.25	0.001	0.37
	Blame others	4.33	1	4.33	105.03	0.00*	0.802
	Rumination	5.96	1	5.96	2.72	0.11	0.095
	Making catastrophic	1.8	1	1.8	0.71	0.406	0.027
	Admission	27.39	1	27.39	17.3	0.00*	0.4
	Single positive focus/planning	15.87	1	15.87	6.9	0.014	0.21
	Positive evaluation/broader perspective	32.19	1	32.19	4.37	0.046	0.144
	Total score of emotion regulation strategies	71116.93	1	71116.93	1004.95	0.0*	0.97
	Assertiveness	46.75	1	46.75	77.23	0.0*	0.72
	Depression	338.88	1	338.88	56.7	0.0*	0.65
Group	Self-blame	5.36	2	2.68	12.39	0.00*	0.488
	Blame others	0.42	2	0.21	5.12	0.013	0.283
	Rumination	14.17	2	7.08	3.24	0.055	0.2
	Making catastrophic	130.99	2	65.49	25.84	0.00	0.665
	Admission	24.9	2	14.45	7.86	0.002	0.377
	Single positive focus/planning	44.08	2	22.4	9.58	0.001	0.424
	Positive evaluation/broader perspective	50.79	2	3.44	3.44	0.047	0.21
	Total score of emotion regulation strategies	918.47	2	459.23	6.48	0.005	0.30
	Assertiveness	4.89	2	2.44	4.04	0.028	0.21
	Depression	67.43	2	33.71	5.64	0.008	0.27

Fig. 1 shows that the experimental and control groups differ significantly on three variables including assertiveness (F = 4.04), depression (F = 5.64), and cognitive emotion regulation strategies (F = 6.48) (P < 0/05). There was a significant difference (P < 0.05) between the experimental and control groups in dimensions of self-blame (F = 12.39), blame of others (F = 5.12), catastrophic (F = 25.84), acceptance (F = 7.86), single positive

focus/planning (F = 9.58), and positive evaluation/broader perspective (F = 3.44). Findings also showed that the amount of common variance between groups in the total score variable of emotion regulation, assertiveness, and depression strategies was 0.30, 0.21, and 0.27, respectively, indicating 30% of the significant difference in strategies. A total of 21% of the significant difference in assertiveness and 27% of the

significant difference in depression regarding post-test phase were related to group membership and treatment. For subscales of self-blame and catastrophic, differences between the two groups were obtained at the level of $P < 0.01$. Based on these results, the bonferroni post hoc test was used to examine the reasons for differences between the groups (Table 2).

Table 2. Results of post hoc test to compare the mean score of dependent variables in test and control nodes in pre-test and post-test

Variable	Group	Cognitive/Behavioral		Control group	
		(I-J)	P	(I-J)	P
Self-blame	Behavioral activation therapy	0.92	0.00	-0.13	1
	Metacognitive therapy	1.06	0.001	-	-
Blame others	Behavioral activation therapy	0.27	0.017	0.011	1
	Metacognitive therapy	0.267	0.073	-	-
Making catastrophic	Behavioral activation therapy	4.27	0.00	-1.34	0.33
	Metacognitive therapy	5.62	0.00	-	-
Admission	Behavioral activation therapy	1.51	0.004	-1.15	0.25
	Metacognitive therapy	2.67	0.002	-	-
Single positive focus/planning	Behavioral activation therapy	1.94	0.026	-1.63	0.139
	Metacognitive therapy	3.57	0.001	-	-
Positive evaluation/broader perspective	Behavioral activation therapy	1.79	0.47	-2.11	0.42
	Metacognitive therapy	-3.9	0.044	-	-
Total score of emotion regulation strategies	Behavioral activation therapy	4.7	1	17.84	0.005
	Metacognitive therapy	-	-	22.54	0.00
Assertiveness	Behavioral activation therapy	-0.42	4	1.95	0.013
	Metacognitive therapy	-	-	2.37	0.001
Depression	Behavioral activation therapy	-11.07	1	-10.42	0.00
	Metacognitive therapy	-	-	-9.34	0.00

Table 2 shows that behavioral activation therapy increased self-blame components, blaming others, number repetition, and positive single focus/planning. Metacognitive therapy self-blame components, acceptance, and cognitive emotion regulation strategies increased positive abstract focus/planning and association ($P < 0.01$). However, there was no significant difference between the effectiveness of behavioral and metacognitive activation therapies in increasing the total score of emotion regulation strategies and assertiveness and reducing depression ($P < 0.05$). These findings suggest that behavioral and metacognitive activation approaches are equally effective in reducing depressive symptoms and enhancing emotion regulation and assertiveness strategies in women victims of domestic violence.

Discussion

This study aimed to compare the effectiveness of behavioral and metacognitive activation therapy on depression, cognitive strategies for emotion regulation, and assertiveness in women victims of domestic violence. The results showed that both behavioral and metacognitive activation therapies significantly reduced depressive symptoms in women victims of domestic violence, and the two therapies were not significantly different in terms of effectiveness. The effectiveness of behavioral activation therapy on depression was in line with the results of other studies (22- 28). Behavioral activation therapy maximizes future rewards, improves reward-seeking and reward response, and increases positive emotion in depressed people because of enhancing positive reinforcement, leading to learning clues and anticipating potential rewards (46). Rewarding activity increases positive reinforcement, which reduces depressive symptoms, and positive reinforcement mediates between activity and depressive symptoms (47). This treatment resulted in women victims of violence, have activated their behaviors in order to receive and improve interpersonal support and

social attention and gain pleasure from performing various activities, leading to strengthening their self-esteem, self-efficacy and self-worth. Several therapeutic components could explain these results. First, behavioral activation developed the skills of monitoring, structuring and scheduling activities in these women and emphasized problem solving. It can educate women experiencing domestic violence on how to overcome barriers to activism. Second, behavioral activation taught women how to activate their social networks, and social support is a strong protective factor against depression. Another explanation is that based on the opinion of Kanter et al. (2015), behavioral activation therapy teaches people to change their lifestyle and establish new rules in their lives and follow them. For example, people learn to be more active when they feel sad, instead of being silent, try to solve the problem or ask others for help. Also, this method teaches the strategy of breaking difficult assignments into simpler elements. Therefore, by implementing these strategies, people can achieve success in a progressive manner, and this facilitates the achievement of positive reinforcement. This will improve social relations and receive positive reinforcement (48).

According to the Depressive Behavioral Model, the increase in activation is expected to precede the recovery of the depressed mood. However, it is also expected that the improvement in mood will increase activation. Therefore, effective treatment for improving depressed mood may also increase activation (26). Women may experience greater self-efficacy by activating the range of their behaviors, associated with a reduction in depressive symptoms.

The effectiveness of metacognitive therapy on depressive symptoms was consistent with the findings (29, 30, 21). Metacognitive therapy is based on the self-regulatory executive function model. In this model, depression is perceived as a consequence of persistent thinking styles (rumination and worry) and other useless self-regulatory strategies. This style of thinking and behavior is called cognitive attention syndrome,

which is controlled by positive and negative metacognitive beliefs and non-adaptive executive control of attention processes (49). Metacognitive techniques change the style of maladaptive thinking. Teaching these techniques can reduce anxiety, unreasonable sadness, feelings of loneliness, and other depressive symptoms. According to the metacognitive perspective, the main cause of depression is rumination, leading to persistent depressed mood and bias in thinking and behaviors. Metacognitive therapy gives people a feeling of more energy and positive thinking, and in turn reduces their symptoms of depression by distracting them from unpleasant thoughts of the past, as well as guiding them. Metacognitive therapy leads to the improvement of women's social performance in their marital interactions by increasing flexible control over attention, thus increasing the ability to separate oneself from the rumination process caused by violent experiences. This treatment leads to modulating the response to internal and external experiences of violence. The technique of refocusing attention on the situation changes the existing and current maladaptive attention strategies these women choose in a stressful situation and also provides a method to increase the flow of new information into consciousness with the aim of changing beliefs.

According to findings, behavioral activation and metacognitive therapy are effective in modulating cognitive emotion regulation strategies in women victims of domestic violence (Table 1), and these two therapies are not significantly different in terms of effectiveness (Table 2). These results are consistent with other studies (22, 23, 31, 32). Since emotions can guide thinking and motivation to action and convey information about thoughts and intentions of individuals, strategies derived from the regulation of adaptive and non-adaptive emotions immediately affect emotions and thoughts. Research has shown that people begin to regulate interpersonal emotions to change the emotions of others and regulate their own emotions. Essential implications can be considered evidence of the

successful performance of behavioral activation therapy in changing cognitions. Behavior activation therapy is likely to create behavioral changes that contribute to changing beliefs and cognitions. Depressive patients are given the opportunity to re-establish routines and connect with positive reinforcement sources through behavioral activation including establishing avoidant behaviors to create opportunities for positive reinforcement. Participating in pleasurable activities is hypothesized to increase positive emotions, and this increase in positive emotional states leads to a reduction in depressive symptoms (50).

Finally, the findings showed that behavioral and metacognitive activation therapies increase in assertive behaviors in women victims of domestic violence (Table 1). These two therapies are significantly different regarding increasing assertive behaviors in women victims of domestic violence (Table 2). This result is consistent with other studies (25 and 38). Behavioral activation helps people fight against avoidance through structured activation and effective problem solving, identify their avoidance patterns, and find alternative coping strategies to approach and engage with issues. Behavioral activation therapy leads to a positive impact on clients through activity monitoring techniques, activity scheduling, contingency management, values, and goal evaluation, and teaching skills such as problem-solving, relaxation, verbal behavior targeting, and avoidance goal setting (51, 52).

This research, like other research, has some limitations and the generalized findings should be conducted according to these cases. First, this study was conducted on the statistical population of women victims of domestic violence in Shiraz, and caution should be exercised in extending the findings to other cities due to cultural differences. These findings were also related to the sample of women victims of domestic violence who referred to counseling centers, and caution should be exercised in generalizing the findings to women who do not seek help despite the violence and do not take action to recover and help themselves.

Therefore, this treatment package is suggested to be used professionally to treat and improve the level of empowerment of these women in counseling and psychology centers, as well as legal centers using specialists in the field of psychology and counseling. Subsequent researchers are also encouraged to evaluate the effectiveness of this treatment package in other communities and samples.

Conclusion

According to the results, cognitive-behavioral and metacognitive therapies can be simultaneously a suitable therapeutic and educational package to improve depressive symptoms, adjust cognitive strategies to regulate emotion, and promote behaviors by affecting the behaviors and thoughts of individuals. The therapies use assertiveness in women victims of domestic violence, help them be more robust when the problem arises, and protect themselves from harm caused by domestic violence.

Conflict of interest

There is no conflict of interest in this article.

Ethical considerations

In the implementation of the present study, ethical considerations included the following principles: ethical considerations of the research, including obtaining consent from the participants, respecting the principle of confidentiality, and avoiding bias. The participants signed a written consent before starting the study. This study was registered with the ethics code.

Code of ethics

1400.125. IR.IAU.KAU.REC.

and M. A.

Author Contributions

Writing an manuscript and conducting research, Z. S; Data collection and research, H. K; Correcting the manuscript and supervising the research process, R. M; Data analysis, B. M

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