The effectiveness of behavioral activation therapy on the symptoms of depression, rumination, and social-occupational functioning impairment among women with postpartum depression

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Abstract:

BACKGROUND: Postpartum depression is caused by a wide range of factors, and women in their postpartum period are highly vulnerable, either physically or emotionally. The present study aimed to investigate the effects of behavioral activation therapy on the symptoms of depression, rumination, and social-occupational functioning impairment among women with postpartum depression (PPD).

MATERIALS AND METHODS: This quasi-experimental research included a pre-test, a post-test, and a one-month follow-up, as well as experimental and control groups. The participants were screened using Edinburgh Postnatal Depression Scale (EDPS) in 2019. The research included 32 women who had visited Isfahan Healthcare Centers. They were selected using convenience sampling and then randomly divided into experimental (16 individuals) and control groups (16 individuals). Both groups answered the following questionnaires before, immediately after, and one month after the intervention: Beck Depression Inventory (BDI), Nelon, *et al.* Ruminative Response Scale, and Mundt *et al.* Work and Social Adjustment Scale (WSAS). The experimental group received behavioral activation therapy for nine 90-minute sessions once a week. The data were analyzed using the statistical method of multivariance analysis of covariance (MANCOVA).

RESULT: The results showed that behavioral activation therapy had a significant effect on the symptoms of depression ($P = 0.001$, F = 79.65), postpartum depression ($P = 0.001$, F = 220.359), rumination ($P = 0.001$, F = 121.765), and social-occupational functioning impairment ($P = 0.001$, F = 368.512) among women with postpartum depression. The effects of behavioral activation therapy also lasted in the follow-up stage of the study.

CONCLUSION: According to the present research, behavioral activation therapy is an effective method that decreases the symptoms of depression, rumination, and occupational-social functioning impairment among women with postpartum depression. Therefore, behavioral activation therapy could be beneficial to intervention designs and treatment of postpartum depression.

Keywords:

Behavioral activation therapy, occupational-social functioning impairment, postpartum depression, rumination

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Introduction

In developing countries, women make up 60% of the labor force; therefore,

attention needs to be paid to their economic, social, and political empowerment. Unlike men, women cannot always volunteer for jobs because of pregnancy and labor. Pregnancy and childbirth are complicated events in a woman's life characterized by physiological and psychological changes such as biological, social, and emotional. Anxiety and depression are common during pregnancy; some women have no choice but to keep working in dangerous conditions and most of them face no psychological harm.[1] According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM- V), if depression symptoms develop within four weeks after giving birth, it can be considered postpartum depression. Postpartum is a type of depression that happens after giving birth. It causes depression, rumination, and intrusive thoughts about harming yourself and the baby.[2] A wide range of causes, including psychological, social, cognitive, and biological factors, are integrated with postpartum depression. Moreover, postpartum depression is characterized by a depressed mood, irritability, a feeling of not enjoying life, insomnia, dizziness, trouble bonding with the baby, inability to care for the baby, and suicidal thoughts. Women are at their most vulnerable moments, physically or emotionally, during the first months after giving birth. Undiagnosed depression during this time leads to the development of chronic depression and suicide in more severe cases. The prevalence of postpartum depression has been reported to be 20% in Canada, ranging from 3.5% to 63.3% in Asian countries, where Pakistan and Malaysia had the highest and lowest rates, respectively. The lowest and the highest prevalence of depression in Iran were reported as 16% and 43%, in Ardebil and Tehran, respectively. In general, the prevalence of postpartum depression in Iran has been reported as 28.7%.[3] Postpartum depression adversely influences various aspects of women's life regarding work and social life, leisure time, and marital and family relationships. Biabgi *et al.* (2016)[4] believe that some characteristics before pregnancy result in an increase in psychological problems such as pessimism, nervousness, excessive worrying or caring, low self-confidence, lack of self-sufficiency, rage, high level of neuroticism, and psychosis. Psychological problems are usually associated with rumination. Rumination is a key cognitive feature of depression, and it is defined as a mode of responding to distress that requires repetitively and passively focusing on the symptoms of distress and the possible causes and consequences of the symptoms.[5] Rumination is associated with the sustained processing of negative emotional material. An individual who often ruminates in times of stress is more likely to suffer from depression, or it probably lasts for a longer period. Rumination during pregnancy is a kind of mental preoccupation that affects mothers' ability to process infant cues effectively and consequently decreases contingency

and sensitivity in parenting.[6] Postpartum depression and psycho-functional aspects such as rumination adversely affect the quality of communication between wife, husband, and child, leading to weak mother-infant bonding. Consequently, postpartum depression harms the child's cognitive development. On the other hand, it increases the risk of severe depressive episodes in the future and the return of mood disorders after future childbirths. Children of depressed mothers also are at higher risk of mortality, adolescent behavioral issues, and developmental disorders. They are three to five times more likely to suffer from depression than others.[7] According to the new behavioral theories, most mental disorders, especially depression and postpartum depression, are due to fear and avoidance of significant personal and social events. Personal and social inactivity is associated with staying home for long hours, resulting in more passive activities, including sleeping, thinking, watching TV, recalling memories, rumination, loneliness, lack of self-efficiency, and lack of competence. On the other hand, social isolation will lead to more passive behaviors and depression symptoms, including sleep disorders (insomnia and hypersomnia), rumination, loss of focus, problems in decision-making, sadness, work and social impairment, and anhedonia. These conditions result in self-criticism, reduced self-esteem, increased negative emotions, and less positive reinforcement. Various psychological methods have been implemented in the last decades for postpartum treatment. All of them are effective; however, there are some differences in terms of effectiveness and affordability.[8] Some of these psychological methods are as follows: drug therapy,[9] reality therapy,[10] cognitive-behavioral therapy,[11] cognitive skills training,[12] attachment training,[13] and Internet-based behavioral activation.[14] The researchers of the mentioned psychological methods named some research limitations such as high-cost therapy, prolonged therapy, lack of sufficient evidence, methodological and implementation deficiencies, as well as not having a follow-up stage. Behavioral activation therapy is a short-term and solution-oriented intervention. It conceptualizes depression as a consequence of a lack of positive reinforcement. Behavioral activation therapy is a third-generation behavior therapy which is a form of functional analytic psychotherapy. Behavioral activation therapy involves structured therapy aimed at increasing the amount of activity in an individual's life so that they come into contact with sources of positive reinforcement. In fact, it is an approach to mental health that seeks to increase the individual's contact with sources of reward by helping them get more active. Moreover, behavioral activation therapy emphasizes the role of environmental cues in the individual's behavior.[15] According to this theory, avoidance behaviors can perpetuate symptoms of depression. Avoidance behaviors are emotion regulation strategies that are effective in the short term, but frequent

and long-term suppression may be dysfunctional as it can result in a feeling of incompetence and hinder doing pleasant activities.[16] Based on this theory, rumination contributes to the perpetuation of depression and can exert negative effects on problem-solving and motivation. In addition, behavioral activation theory focuses on the reduction of rumination based on functional analysis.[17]

Behavioral activation therapy leads to a regular daily routine, developing a sleep routine, and increasing social participation. As a result, some depression symptoms, such as sleep deprivation and social avoidance, will disappear. In addition, depression can lead to a loss of motivation, and individuals with depression often feel tired and are not interested in doing any activity. However, behavioral activation therapy helps individuals foster positive thinking and boost their energy. As a result, individuals are able to perform activities that they were reluctant or unable to do.[8] The effectiveness of behavioral activation therapy has been confirmed in various studies: Behavioral activation on substance use and depression,[18] Internet-based behavioral activation to improve depressive symptoms of individuals with child abuse,[19] depression and quality of life in women with breast cancer,[20] behavioral activation therapy for maternal depression.[21] Healthcare institutions need to exert authority to manage the adverse effects of postpartum depression due to the increasing prevalence of postpartum depression in Iran and its destructive effects on mothers, infants, and families. In severe cases, postpartum depression results in suicide and infanticide. Therefore, it is the responsibility of women's healthcare organizations, obstetricians and gynecologists, clinical psychologists, midwives, nurses, psychologists, psychiatrists, and managers with female employees to help in order to improve women's health in society by informing women and their families about such matters and their consequences. Identifying mothers at risk of postpartum depression reduces adverse events and hospitalization rates, mother-child separation consequences, and separation of the mother from the family and its consequences, which results in mental health enhancement both in families and societies.

The researcher decided to investigate the effects of behavioral activation therapy on the symptoms of depression, rumination, and occupational-social functioning impairment among women with postpartum depression due to several reasons: The prevalence of postpartum depression and its adverse effects on social and occupational performance, the role of rumination in this disorder, on the other hand, and considering the effectiveness of behavioral activation therapy on the symptoms of depression, anxiety, and rumination. In addition, so far, only a few studies have been conducted in Iran regarding behavioral activation therapy and depression.

Materials and Methods

Study design and setting
This quasi-experimental research included a pre-test, a post-test, and a follow-up test, as well as experimental and control groups.

Study participant and sampling
The statistical population consisted of 240 mothers who had visited Isfahan healthcare centers 6 to 12 weeks after delivering a baby for postpartum care in 2019. Convenience sampling was conducted in the present research. They were given Edinburg Postnatal Depression Scale and demographic survey questions to evaluate if they fit the inclusion criteria. Those who received a total score of 12 or higher were qualified to be included in the research. Then, they were randomly divided into the experimental group (16 participants) and the control group (16 participants). Fleiss *et al.*'s[22] formula was also used for sample size calculation.

$$n = \frac{2\sigma^2 (z_1 - \frac{\alpha}{2} + z_1 - \beta)^2}{d^2}$$

According to Ahmadi and Golizadeh,[23] the standard deviation of women with postpartum depression, the amount of d (the confidence interval for the difference), and (for a beta of 0.1 and the statistical power of 0.9) were as 8.28, 2.16, and 1.58, respectively. The sample size calculation for each group was 15.85; therefore, 16 participants were assigned for each group of the present study, and both groups answered the questionnaires. The experimental group received behavioral activation therapy during nine 90-minute sessions every week. However, the control group received no intervention. At the end of the intervention, the participants of both groups participated in a post-test, and one month after the intervention, a follow-up test was taken from both groups.

Inclusion criteria
Women who are diagnosed with postpartum depression with a total score of 12 or higher on the Edinburg Postnatal Depression Scale, willingness and informed consent to participate in the research, minimum age of 18, and maximum age of 35.

Exclusion criteria
having a concurrent psychiatric disorder, having depressive disorders with psychotic features, having a physical illness or medical conditions linked to depression, having suicidal thoughts, drug abuse, receiving any psychological or drug therapy for at least one year ago, being absent more than two sessions, a lack of cooperation during therapy sessions.

Data collection tools and technique

Four instruments were applied in the present study to collect information. These four instruments are as follows:

A. Depression Inventory: The Beck Depression Inventory was first introduced by Aron T. Beck and his colleagues in 1961, revised in 1971, and finally published in 1978. It is a 21-item questionnaire on a scale of 0 to 3. Its second edition was designed to evaluate the severity of depression in adults and adolescents aged 13 or above. Beck Depression Inventory evaluates the symptoms in the last two weeks. Because the first edition covers only 6 out of 9 depression criteria, it was revised in 1996 to be more consistent with the Diagnostic and Statistical Manual of Mental Disorders. Then, the second edition was published. The convergent validity of the Beck Depression Inventory was confirmed using Hamilton Depression Rating Scale and the test-retest method (0.94), and its reliability was also confirmed using Hamilton Depression Rating Scale and the split-half method (0.89).[24]

B. Postnatal Depression Scale: It is a 10-item questionnaire developed in 1989 by Edinburg. The scores of the ten items are added up, giving a minimum score of 0 and a maximum of 30. A cut-off score of 12 or above is considered as an indication of postpartum depression. It provides the diagnosis of depression six weeks after giving birth. Questions 1,2, and 4 are scored on a scale of 0 to 3 (0,1,2,3), and questions 3, 5, 6, 7, 8, 9, and 10 are reverse scored on a scale of 3 to 0 (3,2,1,0). Cronbach's alpha coefficient of the postnatal depression scale and its convergence validity with Beck's scale are 0.7 and 0.44, respectively.[23] The validity of this scale has been confirmed in the study of Khodadoostan,[25] and its reliability was confirmed in the study of Montazeri et al.[26] using Cronbach's alpha (0.77) and the re-test method (0.8). The total reliability coefficient of the postnatal depression scale has been calculated in the current research with a value of 0.81.

C. Ruminative Response Scale (RRS): It is a 22-item questionnaire developed by Nolen-Hoeksema and Morrow in 1991 with the aim of measuring sadness and depression on a 4-point Likert scale. The participants were asked to score each item on a scale of 1 (never) to 4 (often). The scale measures four types of reactions while being in a negative mood. In other words, it consists of four different subscales. According to the Response Styles Theory of Depression, there are two main responses to depression: distraction and rumination. The Ruminative Response Scale was translated into Farsi, and also the validity of this scale was confirmed by Bagherinejad et al.[27] In their research, the correlation of this scale with the scores of depression and anxiety among Iranian students was calculated as 0.63; In addition, its Cronbach's alpha coefficient was calculated as 0.88 as an index of internal consistency for the rumination responses. In general, the results of numerous studies have shown that Ruminative Response Scale comes with high internal validity, and its Cronbach's alpha coefficient ranges from 0.88 to 0.92. The total reliability coefficient of the current research has been calculated as 0.85.

D. Work and Social Adjustment Scale (WSAS): It was designed in 2002 by Mundt et al.[28] to assess the impact of an individual's mental health on their ability to function. WSAS is used to measure the functioning impairment of women with postpartum depression in the present study. Cronbach's alpha was calculated by Mundt et al., which is in the range of 0.7 to 0.94. The convergence validity of this scale has been reported as 0.86 in a study regarding clinical psychology and counseling. The scores were sensitive to patient differences in the severity of symptoms and treatment-related changes. It was first translated into Farsi by the researcher of the present study and its validity was confirmed with the help of several English language experts and psychologists. Its reliability coefficient was calculated as 0.88 in the present study.

The behavioral activation therapy program of the present research was in accordance with the treatment package compiled by Soleimani et al.[29] Their treatment package was also designed based on related theories, especially the treatment proposed by Dimidjian et al.[30] The experimental group received behavioral activation therapy program. The program included nine 90-minute sessions conducted once a week as group therapy. Each session was followed by a routine: Tasks are reviewed, and all the questions are answered; then each session's topic and the required techniques are taught; then the exercises are performed, followed by a summary of the session. The researcher sometimes assigned the sessions to depression, rumination, occupational and social functioning impairment, and postpartum depression. Table 1 presents an outline of sessions and topics.

Ethical considerations

The participants were made fully aware of the nature and purpose of this research, and their anonymity and confidentiality were preserved. An informed consent form was obtained from the participants, as well. They were given the right to withdraw at any time during the research, and the researcher analyzed all the data of the participants in all honesty.

At the end of the intervention, behavioral activation training was presented to the control group in the form of an offline program.

Table 1: Outline of the Behavioral Activation Group Therapy

Session	Task	The Goal of the Behavioral Activation Therapy Program
1	Introductions, Group Rules, Introduction to Depression, Models of Depression, Behavioral Activation: Begin daily activity log	What is depression?
		What are the symptoms of depression?
		Models of depression
		Behavioral Activation
		Assessment of the patient's conditions
2	Behavioral Activation: Pleasure accomplishment rating and creating a pleasurable activity	Identifying avoidance and inactivity patterns
		Informing the patients of their lifestyle
		Emphasis on the activation
3	Behavioral activation: ACTION	Review of the previous session
		Introduction to the ACTION skill (assess, choose, try, integrate, observe results)
4	Behavioral activation: TRAP and TRAC	Report on assignments
		TRAP and TRAC skill (description)
		TRAP and TRACK (practice)
		Focus on the stressful aspects of the disorder
		Introduction to avoidance
		Mental preparation
5	Stress and Depression	Report on assignments
		Discussion about stress, depression, and anxiety
		Coping strategies
		Using TRAP-TRAC with stressful events
6	Assertiveness	Review of the previous sessions
		Report on assignments
		Assertiveness Skills
		Making requests or saying "No"
		Turing threats to opportunities
		Mental preparation
7	Self-Care	Review of the previous sessions
		Report on assignments
		Self-care skills
8	Seeking Social Support	Review the previous sessions
		Report on assignments
		Talk about the importance of social support
		Make a list of the people who provide you with social support
9	Review and Practice, Maintaining treatment gains	Solicit feedback about how the group went
		Review of the previous sessions
		Review of skills
		Maintaining treatment gains
		Behavioral Activation: Begin daily activity log, ACTION, TRAP and TRAC skill, Assertiveness, My coping strategies (the usual reaction, coping pattern)

Statistical analysis

The collected data from the present research was analyzed using SPSS 22.0. The distribution normality of the test scores was evaluated using the mean and the standard deviation at the descriptive level, and the Kolmogorov–Smirnov test at the inferential level. And Levene's test was used to examine the equality of variances and covariance analysis. The significance level of the tests was considered 0.05.

Findings

The demographic results showed that the mean age of the experimental and the control groups were 28.31 and 27.87, respectively. Moreover, the participants in the experimental and control groups were either a housewife or employed, and the results are as follows: 56.3% (nine participants) of the experimental group and 62.5% (ten participants) of the control group were housewives, and 12.5% of the experimental group were teachers and only 6.3% of the control group were teachers; however, 31.3% of the participants in both groups worked as an employee. 56.3% of the participants in both the experimental control groups had only one child, and 43.8% of them had two children.

Parametric tests have several assumptions that need to be met. In the present research, the Kolmogorov–Smirnov test was used to ensure the equal distribution of the test score. In fact, the Kolmogorov–Smirnov test was used to test the null hypothesis. The null hypothesis was

accepted in both the experimental and control groups regarding the pre-test, post-test, and the follow-up stages. However, the null hypothesis was rejected in two cases: In the pre-test and post-test stages of Beck Depression Inventory in the experimental group, also in the pre-test stage of Edinburgh Postnatal Depression Scale (EDPS) in the control group.

Put simply, the scores are normally distributed, and the skewness in statistics is not an indication of an imbalance of a normal distribution (a P value higher than 0.05 indicates there is no statistical difference). According to Levene's test in terms of equality of variances in both groups, the null hypothesis was confirmed for all the variables in the three stages, except in the post-test stage of Beck Depression Inventory.

Put it another way, the assumption of the equality of variances regarding the scores in the experimental and control groups is confirmed in all three stages (pre-test, post-test, and follow-up) ($P > 0.05$). In Box's M test, the homogeneity of the covariance matrix has been met ($P = 0.095$, Box's M = 1.62). Mauchly's test showed that the assumption of the equality of the variance-covariance matrix (0.072) is higher than the significance level ($\alpha = 0.05$). As a result, the null hypothesis was accepted. Therefore, using multivariate analysis of covariance (MANCOVA) was acceptable in the present study.

Table 2 presents the results of the multivariate analysis of covariance regarding the effects of behavioral activation therapy on symptoms of depression, rumination, and occupational-social functioning impairment in the three stages: post-test, follow-up, and pre-test as covariate.

Table 2 shows a significant difference between the mean scores of the experimental and control groups. In other words, behavioral activation therapy has reduced the scores of depression symptoms, rumination, and occupational-social functioning impairment of the experimental group in the post-test and follow-up stages. A 67.8% and 80.6% reduction in the symptoms of depression was observed in the post-test and follow-up stages, respectively. In addition, there was an 80.8% and 82.8% reduction in terms of rumination in the post-test and follow-up stages, respectively. Finally, the reduction of behavioral activation therapy on occupational-social functioning impairment was 93.5% in the post-test and 93.7% in the follow-up stage.

The estimated marginal means of the variables are presented in Table 3:

The mean score of Beck Depression, postpartum depression, rumination, and occupational-social

functioning impairment in the experimental group was lower than the control group; it indicates that behavioral activation therapy positively affected the research variables in the post-test and follow-up stages.

Discussion

The present research aimed to investigate the effects of behavioral activation therapy on the symptoms of depression, rumination, and occupational-social functioning impairment among women with postpartum depression in Isfahan healthcare centers. According to the results, the behavioral activation therapy reduced the symptoms of depression, rumination, and occupational-social functioning impairment in the post-test stage among the experimental group, and its effects also lasted in the follow-up stage. The result of the present study is consistent with the studies conducted by Sharreh[20] and Huston *et al.*[21]

We can refer to the *nature* and *content* of behavioral activation therapy, its techniques, and exercises to elaborate more about the effectiveness of behavioral activation therapy in the present study. The idea behind behavioral activation in the present research is to train women with postpartum depression to change their lifestyles and foster good habits by deliberately practicing certain behaviors and activating a positive emotional state. That is, they learn to express their emotions, thoughts, values, and inner feelings in times of sadness and worry rather than only being passive.[31] The goal of behavioral activation therapy is to enhance positive reinforcement that leads to the improvement of the individual's mood; that is, they are intrinsically motivated by having a sense of success and joy or even extrinsically rewarded by receiving social attention. In fact, achieving rewards helps with the patient's mood state.[32] Depression causes feelings of sadness, despair, fatigue, and lack of energy; therefore, the more depressed the individuals, the more immobilization they experience, which leads to social avoidance, more passive behaviors, and depressive symptoms such as rumination, negative thoughts, lack of focus, indecisiveness, isolation, loneliness, sadness anhedonia (loss of ability to feel pleasure).[5] Activity scheduling is a behavioral therapy that helps patients with depressive symptoms to alleviate depression and elevate their mood by engaging in constructive behaviors. Such behaviors come with positive consequences in the short term that result in healthy behaviors and a lower risk of suffering from depressive disorders. In such conditions, the individuals are able to participate in activities that they used to ignore or were unable to do.[16]

There have been no studies specifically investigating the effectiveness of rumination among women with postpartum depression; however, the results of the

Table 2: The Results of the Multivariate Analysis of Covariance in Terms of the Scores of Variables among Women with Postpartum Depression Who Had Visited Isfahan Healthcare Centers, Research Variables in the Post-test and Follow-up, with a Pre-test as Covariate

Variables	Stage	Chi-Square	Mean Square	F	Significance Level	Effect Size	Statistical Power
Beck Depression symptoms	Post-test	382.744	382.744	58.824	0.001	0.678	1.000
	Follow-up	484.836	484.836	79.65	0.001	0.74	1.000
Postpartum depression	Post-test	319.731	319.731	116.674	0.001	0.806	1.000
	Follow-up	685.523	685.523	220.359	0.001	0.887	1.000
Rumination	Post-test	2121.179	2121.179	121.756	0.001	0.808	1.000
	Follow-up	2545.264	2545.264	140.085	0.001	0.828	1.000
Occupational and social functioning impairment	Post-test	1976.448	1976.448	416.309	0.001	0.935	1.000
	Follow-up	2602.259	2602.259	368.512	0.001	0.937	1.000

Table 3: The Estimated Marginal Means of the Variables in the Post-Test and Follow-up Stages among the Experimental and Control Groups

Variables	Stage	Group	Mean	Standard Deviation Error
Beck Depression Symptoms	Post-test	Experimental	9.68	0.642
		Control	16.69	0.642
	Follow-up	Experimental	7.209	0.621
		Control	15.103	0.621
Postpartum Depression	Post-test	Experimental	11.42	0.417
		Control	17.83	0.471
	Follow-up	Experimental	8.87	0.444
		Control	18.26	0.444
Rumination	Post-test	Experimental	52.66	1.054
		Control	69.27	1.054
	Follow-up	Experimental	50.37	1.076
		Control	68.57	1.076
Occupational-Social Functioning Impairment	Post-test	Experimental	19.733	0.55
		Control	35.767	0.55
	Follow-up	Experimental	17.739	0.671
		Control	36.136	0.671

present study are indirectly aligned with similar and close studies. For instance, behavioral activation therapy significantly reduces depressive symptoms, anxiety, and rumination among patients suffering from depression and anxiety.[33] In explanation of the findings mentioned above, it can be stated that women with postpartum depression are depressed, disappointed, and impulsive since they have no motivation and purpose in life. Individuals with depression avoid stressors when facing challenges rather than dealing with them because they lack the self-confidence to accept responsibility for their actions. However, behavioral activation therapy training programs proved them otherwise; it showed that thoughts always influence human emotions and behaviors.[34] Rumination is a behavior that prevents an individual from fully engaging in life activities. Behavioral activation therapy prevents rumination using certain techniques: Emphasis on the consequences of rumination, problem-solving, focus on sensory experiences, refocus on the existing task, and distraction.[21] These techniques deal with the rumination process rather than ruminating thoughts.[35] There is a possibility that the behavioral change in women with postpartum depression (which is the result of behavioral activation therapy) leads to a change in the individual's belief and cognition. In fact, belief and cognition are considered necessary components of long-lasting behavioral and emotional changes.[16] Therefore, the participants received behavioral activation interventions to be aware of their thoughts and mood state; because despair, anger, anxiety, emptiness, aimlessness, and depression result in chronic depression and low quality of life.[36] In addition to the mentioned results, the experimental group fostered more positive thoughts, better health, and reduced depression. Furthermore, being healthier is accompanied by decreased occupational-social functioning impairment.[28] In general, according to the self-report assessment of the patients with depression at the beginning of the research, they believed that they had low occupational-social performance due to low mood and depression and not enjoying life. However, they believed otherwise regarding the assessment of their occupational-social performance.

Limitations and suggestions

All studies have limitations, and the present study is no exception. The current study was limited to women

with postpartum depression who had visited Isfahan healthcare centers; therefore, the results cannot be transferred to the whole society, either spatially or temporally. Convenience sampling is another limitation of this study. In the future, more longitudinal studies are needed to investigate the effectiveness of behavioral activation therapy over a more prolonged period of time on the symptoms of depression, rumination, and occupational-social impairment among women with postpartum depression. In addition, behavioral change requires a considerable amount of time; therefore, it is suggested to increase the number of intervention sessions for future studies.

Conclusion

Only a few depressive symptoms put individuals at higher risk of major depressive disorder. In addition, behavioral activation therapy comes with several benefits: No limitations, risks, or side effects like any other interventions (drug therapy). This treatment method can be used as an intervention for postpartum depression disorder in outpatient clinics or hospitals, regarding the current situation in many psychiatric hospitals, such as rising demand for mental health care, limited time and human resources, and short-term and expensive services.

Conflicts of interest
There are no conflicts of interest.

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