

The Effectiveness of Mindfulness, Logotherapy and Behavioral Activation Treatment on Negative Automatic Thoughts and Depressed Female Students' Attention

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Abstract

Introduction: The current study aims to determine the difference between mindfulness, logotherapy and behavioral activation treatment on negative automatic thoughts and depressed female students' attention.

Method: The method was quasi-experimental with pre-test design, post-test and procedure with a control group. The population in the current study including female students in B.A who referred to Omid-e-Mehr consulting center in 1398 upon a call and 60 participants were selected by sampling and divided into 4 groups based on homogenization. The participants responded to Beck Depression Inventory (1961), Automatic Thoughts Questionnaire by Hollon and Kendall (1980) and D2 Test Attention by Brickenkamp (1981) in three stages of Pre-test, post-test and procedure. The experimental groups received 8 sessions of mindfulness treatment, 10 sessions of logotherapy and 10 sessions for behavioral treatment. To analyze the data, mixed analysis, SPSS software and the significance of 0/05 were exploited.

Results: In the current study, the effect of interventions on negative automatic thoughts was reduced ($P= 0/001$). Time effect caused a reduction in negative automatic thoughts to the pre-test stage ($P= 0/001$). The interaction effect of time among the groups made an alleviation in negative automatic thoughts ($P= 0/001$) compared with the experimental group. Interventions had a rising effect on attention ($P= 0/001$). Time effect caused a rise in attention to the pre-test stage ($P= 0/001$). The interaction effect of time among the groups increased the attention ($P= 0/001$) compared with the experimental group.

Conclusion: It was indicated that all three approaches of mindfulness treatment, logotherapy and behavioral activation treatment are effective by targeting one aspect of depression on negative automatic thoughts and attention in depressed females.

Key words: automatic thoughts" attention" mindfulness" behavioral activation" depressed" logotherapy

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Introduction:

Depression disorder is a chronic and disabling disease which affects the majority of the people all around the world (1). Depression disorder imposes a lot of costs on public health system and draws a lot of attention by mental health experts (2). Lack of joy, sleep deprivation, appetite and energy reduction, depressed mood, focus power weakness and suicidal tendency are the most common in this disorder and we can state that mood changes, cognition and suicidal thoughts are the important features in depression disorder (3). Unlikely, only one factor can explain the depression occurrence; rather it is caused by several different factors. Based on existed reports, it can be claimed that the initiation and continuation of depression is related to different factors such as biology, disease background, environmental and mental-social (4). There are gender distinctions between sexes and its prevalence is more reported among young girls and women rather men and boys rather any other ages (5). These gender differences highlight that more identification is required.

Intense depression leads in weakness of executive function process and cognitive abilities and diminishes (6), the involving tasks in active mind, reduces the capacity of active mind and alleviates its function (7). It also makes depression cognition function worse (8). The cognitive and attention bias play an important role in in initiation and continuation of depression (9). The studies show that the depressed people have difficulty in their attention which causes some attention bias and being alerted to the stimuli (10). According to De Raedt and Koster (11), they proposed a model which is the bond between attention control and cognitive and biological vulnerability which is due to control reduction and sustainable attention that leads in disabling to avoid the negative processing such as ruminating and negative affect in people with sustainable depression and anxiety (12,13).

Recently, many of clinical and social psychologists do some experimental and visual research regarding "content and theme" proof, types of mindfulness experiences and the relationship between these two factors and also have studied about the role of thought style and the person's analysis from the surrounding in the behavior and emotion. In mindfulness process in healthy people, unwanted and negative thoughts some time happen with intensity and cause a negative mood (14). Automatic thoughts are a crucial factor in making some psychological disorders such as depression. They influence on person's feeling and emotions which resulting in inappropriate behaviors and feelings. In fact, the interaction between inefficient belief and life negative events make the negative automatic thoughts about oneself, the world and the future possible. Beck believes that the negative automatic thoughts are caused by life stressful events and they are considered as biased outcomes of data processing. Furthermore, in scientific studies, the experts and psychologists tend to study the outcomes of depression following the depression factor occurrence. Negative automatic thoughts are one of the important outcomes of depression (15).

Depressed patients show a weaker mindfulness and hence the treatment which is mindfulness-based can facilitate the treatment in depressed patients and improve its symptoms (16). Mindfulness is awareness of the present without any judgment. This awareness is related to environment, one's thoughts and the feelings without stabilizing

anything or considering it as good or bad. Therefore, mindfulness regulates the cognitive assessments and visual observation for experiences (17). In addition, mindfulness provides a more compatible dealing and aversive stimuli management. People, who have more mindfulness, report a better emotional and behavioral self-regulation and show a better compassion (18). Positive mindfulness can be noticed as a rise for self-compassion which can be a solution to emotion adjustment that not only there is no avoidance from suffering and aversive emotions (19), but also an attempt to behave with emotions and feelings with compassion and are accepted. In this circumstance which the negative emotions are replaced by positive emotions, the person can use the useful and new conflicting policies (20) and thus, the person is able to overcome the problems (21) by attention practicing and challenging thoughts content and emotions(22).

In line with this issue, (23) highlighted that mindfulness is not related to selective attention functions but to sustainable attention functions. This finding can be justified with the nature of mindfulness as a sustainable and continuous monitoring on current events. Amirkhani and Haghayegh (24), Ritvo, Vora, Irvine, Mongrain, Azargive and Azam (25) and Frewen, Evans, Maraj, Dozois and Partridge (26) addressed to mindfulness effect to reduce negative automatic thoughts.

Logotherapy approach is used to treat depressed patients and it is life acceptance and seeking its meaning in the most problematic conditions. Person's target and goal to seek meaning in life is a motivational stimulus which makes action independence in doing tasks, behaviors and experiences in meaning cognition. Therefore, the people are able to find their position in painful and unchangeable situations (27). So, one's tasks, destiny and responsibility depend on every person (28). Logotherapy draws the range of authorities and freedoms of a patient (29). The only existing opportunity depending on how the person copes with problems and how to tolerate them (Devoe & Frankl's, 2012). The interventions which identify logotherapy often focus on its effectiveness among the elderly population. Aligh with this, Asghari, Aliakbari and Dadkhah (31) stated the effectiveness of logotherapy on depression among elderly people.

Behavioral activation treatment is one of the modern methods in psychology which is used to treat depression disorder by psychologists (32). This treatment is based on the hypothesis that people who are close to depression disorder giving an inappropriate response to the problems (33) and are too weak to obtain the rewards in life and so that reveal the depression symptoms (34). Behavioral activation treatment aims to increase systematic activities in a way to help the patients to attain the big sources of rewards and can solve their problems (35). Behavioral activation treatment process focus directly on increasing the rate of some activities (36), avoiding of doing some activities and behaviors and reducing ruminating (37). In line with this issue, Ansarhossein, Abolghasemi, Mikaeili & Hajloo (38) also indicate that behavioral activation treatment leads in left hemisphere activity and it decreases cognition flexibility, selection attention and also depression symptoms which were examined in the group. It seems that behavioral activation treatment is effective to improve cognition flexibility and selective attention and resulting in rising left hemisphere activity. Fernández and Mairal (39) compared behavioral activation treatment and cognition rebuilding and concluded that both are effective to decrease negative automatic thoughts.

Cognitive abilities are essential for adaptability and successful performance in life actual conditions and allow people to tolerate the challenges and show an a proper decision and planning in an unexpected condition and so that they avoid stressful factors and inhibit their behaviors (40). Moreover, depression is a multi-causal disorder that many have attempted to show its reasons and as it mentioned before, different and proper psychological treatments have been provided based on the theorist approach. Thus, the current study aims to determine the difference between mindfulness, logotherapy and behavioral activation treatment on negative automatic thoughts and depressed female students' attention.

Method: The method was quasi-experimental with pre-test design, post-test and procedure with the experimental group. The population in the current study including female students in B.A who referred to Omid-e-Mehr consulting center in 1398 upon a call and 60 participants were selected by sampling and divided into 4 groups based on homogenization including three experimental groups: mindfulness treatment, logotherapy and behavioral activation treatment and one control group. Every group consisted of 15 participants. The criterion to enter the study including high score over the cutting line in depression inventory, no suffering from chronic physical and mental diseases, substance usage, drinking alcohol and receiving psychological treatments the same time while the criterion to exit comprised the absence in a third of sessions and involving in a crisis or a disease or omission of any entry conditions during the sessions implementation.

Beck Depression Inventory. Beck depression inventory (41) included 21 items that asked the participants to score upon ranging from 0 to 3 scale and the higher score shows more depression. Beck and et al reported the value of Spearman-Brown with 93% and the correlation with clinical scales 66% (41). Taheri Tanjani, Garmaroudi, Azadbakht, Fekrizadeh, Hamidi, Ghisvandi and Fathizadeh (42) contended the value of Chronbach Alpha 93% and its correlation with the health survey ($r= 0/8$) as a scale for converge validity.

Automatic thoughts questionnaire. Automatic thoughts questionnaire by Hollon and Kendall (43) consists of 30 items which are subscales of "the rate of belief in negative automatic thoughts" in Likert scale from "Never=0", "Fairly= 2", Fairly high= 3", "Very high=4", "100%= 5" and "Plenty of negative automatic thoughts" that are evaluated in relation with Likert scale from "Never=1", "Sometimes=2", "Usually=3", "Often= 4" and "Always=5". Hollon and Kendal reported Chronbach Aloha value of 97% as a criterion for internal stabilization for this scale. Kaviani, Javaheri and Bahiray (44) reported the reliability 88%. In the current study, the reliability of two subscales is attained by Chronbach Alpha 92% for plenty of negative automatic thoughts and 95% for the rate of belief in negative automatic thoughts. Kaviani and et al (44) have confirmed converge validity and reliability.

D2 Test Attention. D2 test attention by Brickenkamp in 1981 aimed at testing the rate of attention. It can be performed individually or collaboratively. This test places many visual stimuli against stimuli selection. The most important scores which are served in this study are such as

Error score (F1): Deletion error including all the stimuli before the last visual stimuli which is not marked.

Error score (F2): Error in performance contains all the items which should not be marked but the participant marked by mistake.

Attention score (KL): This score is equal with visual stimuli that the participant marked them accurately subtracted deletion error or first type and performance error or second type. Attention score is ranged between 0 to 308 (45). The values for reliability are higher than 90% and structure validity, simultaneous structure and predictable validity is reported (46).

Mindfulness-based treatment protocol: Mindfulness-based treatment training was used based on intervention protocol by Levinson and et al for 8 sessions (Once a week=90 min) (47). To analyze the validity and reliability of sessions, CVR criterion and 5 psychology instructors were served that gained 9 and it showed an appropriate level of validity and reliability.

Table 1. Mindfulness-based Treatment Protocol

Session	Target	Activity
First	Automatic guidance	Communication with group members, mindfulness and sessions structure and group regulations, raisin eating practice cautiously
Second	Awareness of breathing	Review of previous session and home practicing, explaining how to breath accurately and breathing meditation for 3 min
Third	Barriers	Review of previous session and home practicing, removing practice barriers, meditation, breathing meditation for 3 min and sitting meditation
Fourth	Pleasant events	Review of previous session and home practicing, meditation to see and hear, pleasant events chart, breathing meditation for 3 min and sitting meditation
Fifth	Unpleasant events	Review of previous session and home practicing, unpleasant events chart, walking and sitting meditation
Sixth	Negative cognitions	Review of previous session and home practicing, walking meditation and introducing negative cognition trends
Seventh	Thoughts acceptance are not real	Review of previous session and home practicing, sitting meditation, storytelling about the king and three sons, Poem reading and meditation to release depression, breathing meditation for 3 min and sitting meditation, Movies metaphor and thoughts train
Eighth	The best way of self-care; A plan for future	Review of previous session and home practicing, sitting meditation and breathing meditation for 3 min, providing alarming signs list and joyful activities and skills, breathing meditation for 3 min and sitting meditation, sessions review and planning for future

Logotherapy Protocol. Logotherapy instruction by Frankel based on Hutzell intervention was used in 10 sessions in a collaborative way (Once a week=90 min) (Hutzell, 2002). To analyze the validity and reliability of sessions, CVR criterion and 5 psychology instructors were served that gained 8/4 and it showed an appropriate level of validity and reliability.

Table 2. Logotherapy Protocol

Session	Target	Activity
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First	Primary problems identification	Introduction, members familiarity, group regulations
Second	A review on current problems	Review of patient's goals and expectations and therapist's treatment
Third	Practice review	Peoples' experiences regarding performance, review of problems and barriers
Fourth	Drawing form analysis	Drawing form analysis and life scopes
Fifth	Focusing on drives	Focusing on drives in defective anxiety cycle and activities barriers
Sixth	Negative thoughts identification	Negative thoughts identification and thought rumination
Seventh	Problem solving	Training how to do problem solving and stop avoidance
Eighth	Secondary issues identification	The problems and the achievements were analyzed to identify secondary issues
Ninth	Review of previous week practice	To aware people from disease recurrence
Tenth	Necessary skills for prevention	Review of necessary skills to prevent disease recurrence and generalizing short-term behavioral activation to other life textures

Behavioral Activation-based Treatment Protocol: Behavioral activation-based treatment is a short-term intervention including treatment sessions based on a practical guide with a revised version based on an intervention protocol by Lejuez, Hopko, Acierno, Daughters and Pagoto (2011) in 10 sessions (Once a week=90 min) . To analyze the validity and reliability of sessions, CVR criterion and 5 psychology instructors were served that gained 8 and it showed an appropriate level of validity and reliability.

Table 3. Behavioral Activation-based Treatment Protocol

Session	Target	Activity
First	Group charter provision and contract therapy	Introduction, group regulations and targets
Second	Statement of problem	Discussion about different life domains
Third	Seeking for meaning	Meaning of life historical texture and responsibility
Fourth	Attitudes changes	Attitudes changes and meaning from discovery methods
Fifth	Values creation	Meaning of values creation and responsibility
Sixth	Values experience	Meaning of values experience and meaning of hopes and wishes
Seventh	Meaning of concepts	Meaning of death, life, freedom and responsibility

Eighth	Responsibility	Self-care, social interest and overcoming the frustration and life hope increase
Ninth	Emotional support	Emotional support by group members, Completion of open statements to contact with members and encouraging members to ask for emotional support
Tenth	Review of practices	Summary of sessions and ending, talking about one's learning in the group

After participants assurance and acceptance regarding the study data confidentiality and moralities in addition to explanation about intervention and how to respond the questionnaires in pre-test, procedure and post-test, experimental groups in logotherapy and behavioral activation groups were under the treatment mentioned for 10 sessions=90 min and mindfulness experimental group for 8 sessions=90 min. The control group received no treatment or intervention. After the treatments ended, the tests which were applied in pre-test step, were also used in post-test step. According to treatment protocols, these tests were repeated after two month for the last time. In the current study, in order to analyze the data, mixed analysis method, statistics tests by Shapiro, Wilk, Lon, M Box and Greenhouse- Giser and SPSS software and also the significance of 0/05 were used.

Findings: The findings regarding the age distribution among the females in different groups were studied, compared and reported in Table 4.

Table 4. Comparison of age distribution in different groups

Age range	Mindfulness		Logotherapy		Activation treatment		Control	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
18-25	5	33/33	6	60	6	60	5	33/33
26-30	5	33/33	4	40	4	40	5	33/33
31-35	5	33/33	5	33/33	5	33/33	5	33/33
Total	15	100	15	100	15	100	15	100

Then, the null hypotheses were analyzed by a mixed method. The results was examined by Shapiro-Wilk testing and revealed that the variables of negative automatic thoughts and attention in two groups in three steps of pre-test, procedure and post-test consisted of a normal distribution. The M Box and Loan testing also was not significant for any of these variables; thus, the condition of matrix and variance-co-variance for variables of negative automatic thoughts and attentions were considered in all three steps. The results by using Cruit Mocli revealed that the equity of variances was not appeared neither negative automatic thoughts nor for attention. According to the Greenhouse- Gaze testing in which the Epsilon was smaller than 0/75, this testing was applied to analyze the variables of negative automatic thoughts and attention.

Table 5. The results of mixed method analysis to determine the independent variables on attention and negative automatic thoughts variables

Variable		Total squares	Independence degree	Squares Mean	F	Probability value	N2
Negative automatic thoughts	Group effect	22525/26	3	7508/42	307/87	0/001	0/943
	Time effect	31405/87	1/24	25178/34	5883/34	0/001	0/991
	Interaction effect	10909/18	3/74	2915/32	681/21	0/001	0/973
Attention	Group effect	30531/39	3	10177/13	426/07	0/001	0/989
	Time effect	46195/21	1/30	53303/62	4987/65	0/001	0/968
	Interaction effect	15808/12	3/92	4026/99	568/93	0/001	0/968

Table 5 revealed that interventions have a reducing effect on negative automatic thoughts (P=0/001). Time effect leads in decreasing the negative automatic thoughts (P=0/001) rather pre-test stage. Interaction effect of time in groups caused an alleviation of negative automatic thoughts (P=0/001) rather the control group. Interventions had a rising effect (P=0/001). The time effect leads in rising attention (P=0/001) rather pre-test stage. Interaction effect of time in groups leads in rising attention (P=0/001) in comparison with the control group. The diagnosis for negative automatic thoughts were repeated 6 times and in each time, two groups were compared that the results are presented in Table 6.

Table 6. Comparison of significance in interaction effect of time in groups in form of two groups on attention and negative automatic thought variables

Comparative groups		Total squares	Independence degree	Squares Mean	F	Probability value	N2
Negative automatic thoughts	1 st group 2 nd group	79/02	1/11	71/08	12/21	0/001	0/304
	1 st group 3 rd group	179/28	1/19	150/06	24/21	0/001	0/464
	1 st group 4 th group	10295/67	2/47	4154/03	1109/90	0/001	0/981
	2 nd group 3 rd group	42/27	2/35	17/97	3/25	0/039	0/188
	2 nd group 4 th group	6123/40	1/27	4801/57	1750/43	0/001	0/986
	3 rd group 4 th group	6174/15	1/46	4223/99	1467/26	0/001	0/981
	1 st group 2 nd group	196/15	1/65	118/79	22/70	0/001	0/448
	1 st group 3 rd group	311/62	1/34	232/42	23/20	0/001	0/453

Attention	1 st group 4 th group	12540/02	1/41	8889/43	3162/61	0/001	0/991
	2 nd group 3 rd group	13/95	1/07	12/99	0/959	0/342	0/033
	2 nd group 4 th group	9636/06	1/21	7965/82	1892/37	0/001	0/985
	3 rd group 4 th group	8918/42	1/06	8386/12	902/44	0/001	0/970

Four groups

First group: Mindfulness

Second group: Logotherapy

Third group: Behavioral activation treatment

Fourth group: Control

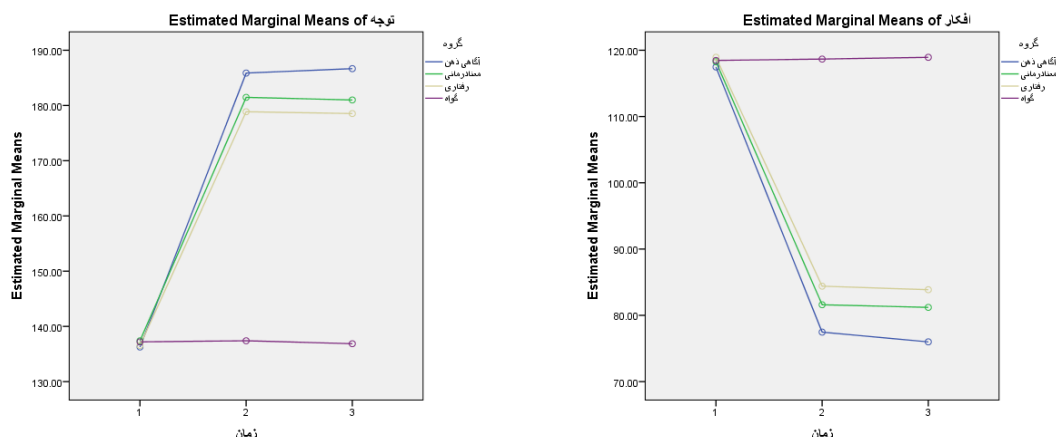


Figure 1. The Effectiveness of Mindfulness treatment, Logotherapy and Behavioral Activation Treatment on Negative Automatic Thoughts and Attention means in three stages: pre-test, procedure and post-test

Discussion and Conclusion

The results in current study revealed that mindfulness treatment was effective on negative automatic thoughts and attention among depressed female students. The findings from Nejadi, Zabihzadeh & Nikfarjam (23), Amirkhani and Haghayegh (24), Ritvo, Vora, Irvine, Mongrain, Azargive and Azam (25) and Frewen, Evans, Maraj, Dozois and Partridge (26) were in a line together. Also, they were in concordance with the study of Asghari, Aliakbari and Dadkhah (31). The results from the present study indicated that mindfulness treatment was effective on negative automatic thoughts and attention among depressed female students. The results obtained from the present study are in line with Ansarhossein, Abolghasemi, Mikaeili & Hajloo (38) and Fernández and Mairal (39).

Executive functions or cognitive abilities including neural process in nurture, processing, maintenance and data application. Human cognition process is evolved due to the need to solve ecological problems and complex social environment guidance. Cognitive abilities

which are the bond between behavior and the brain structure and it contains an expand scope (planning, attention, response inhibition, problem solving, simultaneous tasks doing and cognitive flexibility) (23).

Executive functions are the skills which are related to forehead cortex which help person to pay attention to the important aspects of the task and plans to end it (21). One of the executive functions is "attention". Attention is sources guidance to a sub branch of existing data which are essential for cognition and without it; there is no awareness of emotional data. Attention is a cognitive process including the attempt which mind focuses on a stimulus, an event or a specific mental issue. Attention is a selective ability in maintenance of a cognitive or behavioral collection against the rival or disturbing stimuli (44).

Cognitive weaknesses which are related to forehead cortex result in attention problems in addition to though rumination and negative automatic thoughts and in this circumstance, the person focuses on distress symptoms and its causes and outcomes. These thoughts enter awareness automatically and distracts the one's attention from given subjects and current goals and focuses on depression feelings and its causes and outcomes (38).

To determine the effectiveness of mindfulness treatment on negative automatic thought and attention among depressed female, it can be stated that attention in mindfulness is influenced by biased self-centered thoughts involving judgment about oneself, but mindfulness is as a kind of attention without bias and judgment about the one's aspects. Many practices which are used to improve mindfulness including sustainable attention practices. Self-regulation is attention to the task (as it is defined in mindfulness definition) and refers to the capacity of sustainable attention in a person with mindfulness. Neural studies in the area of neural basis on practices regarding meditation and mindfulness reveal the emotional moods regulation with rising activity in forehead cortex and activity reduction in amygdola and insula regions. On the other hand, many neural studies on attention functions indicate the involving forehead area in sustainable attention guidance and cognitive executive performances based on sustainable attention (23). Mindfulness implies to attention and mental preparation that the person is able to understand and process the events in surrounding (18). For this reason, mindfulness interventions can focus on sense loops and pay attention to emotions and feelings and also determine the relationship between cognition- affection. Some of these studies show that not only mindfulness interventions improve emotional abilities but also they cause emotional arrangements to improve emotions (Positive and negative) directly and indirectly (22).

Meditation analyzes mental experiences and feeling data in shape of meta- cognition without assessment or interpretation. Improvement in this mood contains some monitoring positive effects on feelings (19). People, who receive mindfulness, are recommended to perform with acceptance against resistance or avoidance of mindfulness experience. The theorists state that the growth in mindfulness without assessment can increase cognitive flexibility and it can foster emotional and cognitive process (20).

The results from experimental studies also claim that mindfulness can have a positive sustainable effect on related functions on selective attention (21). To sum up, it can be said that mindfulness approach can help people to focus on solutions instead of remaining in negative thoughts or distress reason. In mindfulness interventions, the person should have the

capacity to accept such feelings and thoughts instead of conflicting. Thus, the people can get rid of sleep deprivation and depression.

To determine the effectiveness of logotherapy on negative automatic thoughts and attention among depressed females, it can be stated that the therapist who believes in logotherapy attempts to help the patient to seek for an intention or a target in life. The target or intention should be appropriate and meaningful for the patient and it means he/she accepts its responsibility (27). When the human decides that his destiny is only suffering and has to accept this pain as a unique and exceptional duty, nobody can help him to release from suffering or feels the pain instead (27). In other words, the person should try to change the perspective and attitude toward the pains and events and believes that this is the mind which makes the events intolerable and suffering and in turn should know them as directions which are passing (28). The target of logotherapy is to enable the patient to discover the significant meaning in life (29). The attempt to find the meaning in human life is the most fundamental drives for every person in life. The main feature in logotherapy is to facilitate the reference questions from logotherapy and empowering them to life meaning, responsibility and attention to meaning of life. So, the life is not only based on awareness but being along with the flow of eminence. The one's eminence is the nature of life. Being a human is guided along with the human direction (30).

Logotherapy teaches a philosophy of life in which the person is responsible for life and is adhere to a series of values and finds a meaning for suffering and it is natural that these instructions can raise hope to life and mental health in depressed people. The aim of logotherapy is to teach a depressed person how to achieve the fact beyond the mental facilities and hidden values (50).

To determine the effectiveness of behavioral activation treatment on negative automatic thoughts and attention among depressed females, it can be stated that the behavioral activation is not to increase the activities accidentally or doing task to enjoy or improve moods but this treatment method is to establish methods which the patients can gain more reinforcements from the environment (37). The therapist can help the patients to be aware of the avoidance or escape cases and use more appropriate methods in place of avoidance or escaping.

Also, the therapist helps the patients to consider the short-term and long-term goals. The short-term goals can help the patients to change the circumstances in their life to be exposed less in depression (33). The first treatment process is to identify the patterns and avoidance areas and the second process including the planning to achieve the primary targets or short-term and long-term targets (36). This treatment is based on this hypothesis that people who are more exposed to depression disorder with an inappropriate response to problems, can decrease the gain of rewards and raise the risk of depression disorder symptoms (49). The aim of behavioral activation therapy is to increase systematic activities in a way that help the patients to gain the big sources of rewards and can solve their problems. The process of behavioral activation focuses directly on increasing the rate of doing some tasks and avoidance of doing other tasks (to avoid some behaviors and reduce mind rumination) (48).

The results in present study revealed that all three approaches of mindfulness treatment, logotherapy and behavioral activation therapy can target one dimension of depression and have a reducing effect on negative automatic thoughts and attention among depressed

females. The results in current study confirmed the existed studies regarding multi causal etiology for depression.

Each study has some limitations. In the current study, there was no random sampling which caused the internal credit of the study and also no control over effective and probable variables on results like economic-social status caused the external credit to be at risk. It is recommended that the further studies use random sampling for the groups and the probable effective variables should be controlled or analyzed.

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