

*Research Paper*

## Comparison of Effectiveness Mindfulness and Cognitive-behavioral Therapies on Experiential Avoidance of Women with Insomnia

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### Abstract

This study aimed to compare the effectiveness of mindfulness and cognitive-behavioral therapy on experiential avoidance in women with insomnia. This was quasi-experimental study pretest-posttest, and a control group with 3-months follow-up. Among women with insomnia disorder in Tehran, 63 participants were selected by purposive sampling method and randomly divided into two different treatments and one control group. Both two experiments were under treatment individually within 8 sessions of 45-60 minutes. Multidimensional Experiential Avoidance Questionnaire were administered. The results of repeated measure analysis showed that both methods were impressive on experiential avoidance of women with Insomnia disorder and decreased experiential avoidance in two experimental groups. There was a significant difference in the efficacy of the two treatments. These two therapies were equally effective at follow-up was not significant.

**Keywords:** Experiential avoidance, insomnia, Mindfulness and Cognitive-behavioral Therapy.

### Introduction

Insomnia is one of the most common sleep disorders among adults (Sexton, et al., 2020) with a one-year prevalence of 30 to 50% in the general population (Brownlow, et al., 2020). One therapy used to reduce the psychological problems of people with insomnia is mindfulness. Researchers' findings have shown that mindfulness reduces experiential avoidance (Ghadampour, et al., 2017). Cognitive-behavioral therapy is another intervention, which are performed to correct cognitive and behavioral patterns affecting sleep disorders (Redeker, et al., 2019). Research findings show that cognitive-behavioral therapy reduces threatening perceptions and experiential avoidance (Eustis, et al., 2020). It seems necessary to study the role of cognitive and emotional factors in the occurrence and persistence of insomnia (Davoodi, et al., 2017) and the outcome of psychological therapies on comorbid problems. Therefore, the present study seeks to answer the question of whether there is a difference between the effectiveness of mindfulness-based insomnia and cognitive-behavioral therapy on the experiential avoidance of women with insomnia.

## Method

The research design was a quasi-experimental pretest-posttest and control group with three-month follow-up. The statistical population was all women with insomnia in Tehran who were referred to the University Counseling Center in 2020. After examination, they were diagnosed with insomnia based on the diagnostic criteria of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders and the expert opinion. The samples were selected by purposive sampling method and randomly assigned to three groups of 21 people. The intervention was performed in the experimental groups of mindfulness (Ong & Sholtes, 2010) and cognitive-behavioral therapy (Perlis, et al., 2005) once a week and individually. After three months, the follow-up period was performed.

The Multidimensional Experiential Avoidance Questionnaire (Gamez, et al., 2011) comprises 62 items and six subscales that assess in a 6-point Likert scale. Gamez, et al. (2011) reported Cronbach's alpha coefficients in different samples from 0.91 to 0.95 and the correlation of this instrument with the Commitment and Action Questionnaire ( $r = 0.74$ ) as an indicator of validity. Cronbach's alpha coefficient for the whole scale was 0.842. Cronbach's alpha of the questionnaire in the present study was calculated to be 0.81.

Descriptive statistics and repeated measure analysis were used to analyze the research data.

## Findings

Shapiro-Wilk test, Levin variance error parity test, Box` s M, and Greenhouse-Geisser modification was used. The results of Table 1 showed that there is a significant difference between three groups of mindfulness, cognitive-behavioral, and control in experiential avoidance and its dimensions in terms of test/time, group membership, and the interactive effect of test and group membership ( $P < 0.01$ ). Difference between the mean of experiential avoidance and its dimensions in the studied groups in three stages of measurement was significant ( $P < 0.01$ ). This means that experiential avoidance and its dimensions at the intra-subject level were significantly different between the three stages of assessment. The interaction of test replication and experimental groups also showed that the difference between the mean of experiential avoidance and its dimensions in the studied groups in the three stages of measurement was significant ( $P < 0.01$ ). Difference between the mean of experiential avoidance and its dimensions between the studied groups is significant ( $P < 0.01$ ) and the interventions explain 34.9% of the changes of experiential avoidance (total score) between the groups.

Table1- Tests of Within-Subjects and Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
time	87936.57	1.007	87325.55	80.107	0.001	0.572
group	116680.931	2	58340.466	16.08	0.001	0.349
time * group	64406.196	2.014	31979.34	29.336	0.001	0.494

The results of the Bonferroni post hoc test to compare the means by group membership and test stages in the groups are reported in Table 2. Difference between the mean of the mindfulness group and the cognitive-behavioral group is significant ( $P < 0.05$ ). Difference

between the mean of mindfulness and cognitive-behavioral groups with the control group is also significant ( $P < 0.05$ ). Therefore, it can be said that the two treatments have been effective in improving experiential avoidance. There is a difference between the effectiveness of mindfulness-based and cognitive-behavioral insomnia treatment on experiential avoidance of women with insomnia after treatment and three-month follow-up.

Table2- Pairwise Comparisons according to the approach and stages of the test

group		Mean Difference	Std. Error	Sig.	Time	Mean Difference (I-J)	Std. Error	Sig.	
mindfulness	CBT	-29.778*	10.732	0.022	pre	post	45.437*	5.121	0.001
	control	-60.857*	10.732	0.001		follow-up	46.071*	5.092	0.001
	CBT	-31.079*	10.732	0.016	post	follow-up	.635	.350	0.223

The results show that the differences from post-test to follow-up are not significant ( $P < 0.05$ ). This means that the therapeutic effects have been stable over time.

## Discussion

The results showed that both mindfulness and cognitive-behavioral therapy of insomnia were effective in reducing the experimental avoidance of women with insomnia. Mindfulness-based insomnia therapy was more effective than cognitive-behavioral therapy in reducing experiential avoidance. These two treatments can be used to reduce experiential avoidance. The present study was performed on women aged 18 to 40 years with insomnia in Tehran, so the generalizability of the results to other groups is limited. Applying therapies to other groups in the community can increase the generalizability of the results. It is suggested that longer follow-up periods and multiple follow-up periods be used to increase the possibility of definitively commenting on the stability of changes during treatment. It is recommended that support sessions be held every few months after the end of treatment to maintain the therapeutic effects for a long time.

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### **Conflicts of interest**

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