



The effectiveness of mindfulness-based cognitive therapy on social self-efficacy and social anxiety in women heads of families

*Munes Tamizgaran¹; Yeganeh Salehi²; Majid Moeinizadeh³

¹MS.c.in clinical psychology, Psychologist of Spiritual and Palliative Care Unit, Imam Reza Hospital, Faculty of Educational Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran.

²MS.c. student in nursing, Birjand University of Medical Sciences, Birjand, Iran.

³Assistant professor, Department of Psychology, Faculty of Educational Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran.

Abstract

Introduction: The number of female heads of households in Iran has increased due to significant social and demographic changes in recent years. These women are more susceptible to psychological harm due to the high levels of responsibilities they bear in their lives. The present study assessed the effectiveness of mindfulness-based cognitive therapy on social self-efficacy and social anxiety in women heads of families.

Materials and Methods: The statistical population consisted of all female heads of households who were members of the "Moheban Al-Reza" charity in Mashhad, Iran, in 2023. Thirty participants were selected through convenience sampling and randomly assigned to experimental and control groups. The experimental group received mindfulness-based cognitive therapy for two months, in weekly sessions lasting 90 minutes each, while the control group received no psychological intervention. Data collection tools included the Social Self-Efficacy Questionnaire (2000) and the Social Anxiety Questionnaire (1996). The data were statistically analyzed using multivariate analysis of covariance.

Results: The results indicated a significant difference between the groups in post-test stage ($P < 0.05$), demonstrating the impact of the intervention on improving social self-efficacy and anxiety among female heads of households.

Conclusion: We revealed that mindfulness-based cognitive therapy can serve as an effective therapeutic approach for improving social self-efficacy and reducing social anxiety among female heads of households. This result highlights the importance of mindfulness-based interventions and emphasizes the need for increased attention to the psychological well-being of this group of women.

Keywords: Mindfulness based cognitive therapy, Social anxiety, Social self-efficacy, Women

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Introduction

Female heads of households take on the responsibility of family leadership due to

circumstances such as the death of a partner, addiction, divorce, immigration, incarceration of a spouse, or other reasons compelling them

*Corresponding Author:

Spiritual and Palliative Care Unit, Imam Reza Hospital, Mashhad, Iran.

tamizgaran.munes@alumni.um.ac.ir

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to play multiple roles (1). As a result, many individual and social problems arise for these individuals, which can ultimately harm the family and society (2). Reports indicate that, according to the 2017 census in Iran, approximately 12.5% of households are headed by women (3). Juggling multiple roles makes them a particularly vulnerable population (4). The heavy responsibilities and societal pressures faced by women heading households often lead to a range of psychological challenges, including feelings of low self-efficacy and social anxiety (5). Social anxiety disorder sometimes referred to as social phobia, is a mental health condition characterized by an intense fear of negative judgment or scrutiny by others. This fear significantly impacts an individual's ability to engage in social activities (6). Research suggests that various family functioning factors, such as problem-solving skills, communication patterns, emotional responsiveness, and emotional involvement, play a role in the development and experience of social anxiety (7). This condition can diminish self-efficacy and negatively impact family functioning (8). Social self-efficacy encompasses aspects such as effective interpersonal skills, social assertiveness, positive exchange of feedback among friends, participation in social activities, and acceptance of help from others. These contribute to positive social relationships, while a lack of social self-efficacy can lead to social withdrawal (9). Studies indicate that self-efficacy is predictive of mental well-being (10). Maintaining their mental health and well-being is essential for female heads of household to fulfill their caregiving roles effectively (1). One effective therapeutic approach for various psychological disorders is Mindfulness-Based Cognitive Therapy (MBCT). It has significantly reduced social anxiety and increased social self-efficacy (11).

Research indicates mindfulness-based therapies effectively reduce anxiety symptoms, boost self-esteem, enhance psychological well-being, improve emotional and behavioral regulation, and promote quality of life, vitality, and vigor. These therapies involve the application of meditation and mindfulness skills (12). Mindfulness means paying specific, purposeful attention to the present moment without judgment. This allows individuals to separate their perspectives from their thoughts (13). In mindfulness-based therapies,

individuals learn to accept their thoughts and feelings without suppressing them (14).

Psychological education, alongside addressing the basic needs of this societal group, is a critical and essential matter that can improve their quality of life, social self-efficacy, and social anxiety. Considering all the points mentioned, the significance of addressing this issue becomes increasingly evident. Moreover, research conducted in this field within the country has been limited, given the high divorce rates and the growing population of these women, highlighting a research gap concerning the effectiveness of mindfulness-based cognitive therapy in enhancing social self-efficacy and reducing social anxiety among female heads of households. In Iran, female heads of households often face elevated levels of social anxiety and diminished social self-efficacy due to their substantial economic and social responsibilities. However, psychological interventions tailored to the needs of this group have so far been scarce. By examining the effectiveness of mindfulness-based cognitive therapy on these two key variables, this research not only helps identify an effective approach to improving the mental health of these women but also lays the groundwork for designing targeted support programs in this domain.

Furthermore, this study represents the first attempt to specifically evaluate this intervention among Iranian female heads of households, marking a novel step in addressing the gaps in previous research. Collectively, these factors motivated the researcher to explore this issue. In light of the aforementioned points, this study was conducted to determine the effectiveness of mindfulness-based cognitive therapy in improving social self-efficacy and reducing social anxiety among female heads of households.

Materials and Methods

The study population consisted of all female heads of households with at least one child under the coverage of the "Moheban Al-Reza" charity in Mashhad, Iran, in 2023. A number of them were invited for interviews. After the interviews conducted by the researcher to confirm the inclusion criteria (having at least one child, confirmation of head-of-household status by the charity, and lack of drug

addictions and prohibitive medical problems), 30 individuals meeting the criteria were selected. The sample size for the experimental and control groups was 15, selected through convenience sampling. The sample size was based on Cohen's formula, and according to the opinion of statistical experts, approximately 15 people were selected for each group (15). Random assignment was used to allocate participants to the two groups. Exclusion criteria included absence from more than two sessions. Participants were allowed to withdraw

from the study at any time. Their information was kept confidential. At the end of the study, the control group also received the treatment intervention.

After the pre-test, each member of the experimental group received MBCT in eight 90-minute group sessions (2 months, one session per week). The content of the MBCT sessions, including session instructions and techniques taught in therapy, was based on the MBCT protocol by Segal, Williams, and Teasdale (Table 1) (16).

Table 1. Session content and protocol for mindfulness-based cognitive therapy

Session	Topic	Explanation
First	Automatic guidance	Pre-test implementation, familiarization of members with each other, and emphasis on deep study of fundamental mindfulness concepts and practical application of these features in documenting relevant situations in the assignment recording sheet.
Second	Troubleshooting	Explanation of the concept of automatic guidance, examining this concept in daily life, and relaxation training.
Third	Mindful breathing and physical movements	Mindful movement combined with mindfulness; expansion exercises and expansive breathing; keeping thoughts and the mind [clear/focused] through meditative exercises and focusing on mindful breathing and body parts. This exercise can begin with a short mindfulness meditation or by listening.
Fourth	Staying in the moment	Practical exercises for each session: <ul style="list-style-type: none"> • 5 minutes of mindful seeing and listening. • 3 minutes of breathing exercises. • Presentation of exercises or modeling for use when experiencing emotions. • Mindful walking.
Fifth	Acceptance and allowing	Meditation sessions emphasizing breath awareness and body awareness, focusing on how to respond to thoughts, feelings, and bodily sensations. Facilitating reactions to present moment experiences. Sharing of experiences by members regarding sensations in different parts of their bodies.
Sixth	Thoughts have no real origin	Focusing attention on the mind without thinking about anything else, like concentrating on a mental object or a spot on a blackboard, and practicing changing moods, thoughts, and attitudes
Seventh	How can we best take care of ourselves?	<ol style="list-style-type: none"> 1. Exploring the relationship between activity and mood: <ul style="list-style-type: none"> • Make a comprehensive list of daily activities • Identify activities that provide a sense of empowerment and emotional release 2. Examining ways to increase beneficial activities: <ul style="list-style-type: none"> • Discover and implement practical strategies to boost engagement in these positive activities 3. Developing an actionable plan: <ul style="list-style-type: none"> • Devise a practical program to incorporate the beneficial activities • Implement this plan during periods of low mood or energy
Eighth	Assessment	Body scan meditation, review and examination of dynamic early warning systems, and practical strategies for coping with them

Research instruments

A) Demographic data: It includes age, number of children, and educational level.

B) Social Self-Efficacy Questionnaire: The Smith and Bettz (2000) Social Self-Efficacy Scale consists of 25 items (originally) that

measure an individual's self-confidence in various social situations on a 5-point Likert scale. It should be noted that in the present study, three items were removed due to cultural incompatibility. Smith and Betz assessed the reliability of this tool by administering it to 354

undergraduate students (90 male and 264 female). The results indicate that the internal consistency reliability (Cronbach's alpha) was 0.94, and the test-retest reliability with a three-week interval was 0.82 (0.86 for males and 0.80 for females). Furthermore, the construct validity of this tool was reported by its developers through correlation with social confidence and shyness scales, using convergent and divergent methods (17). The validity of the Persian version of this scale was confirmed by Zare (18).

C) Social Anxiety Questionnaire: This scale was developed by Jerabeck in 1996 to measure social anxiety in individuals over ten years of age. The questions in this scale assess the level of social anxiety, fear of being in social gatherings, and performance in groups. This tool has 25 five-point Likert-type questions with the following options: almost always (5), often (4), sometimes (3), rarely (2), almost rarely (1). The score range of this questionnaire is 25-125. It consists of 5 subscales: fear of strangers (questions of 3, 4, 5, 8, 12, 13, 15, and 17), fear of negative evaluation (questions of 16, 19, 21, and 22), fear of public speaking (questions of 1, 18, 23, and 24), fear of social interaction (questions of 2, 7, 9, 20, 25), and fear of showing anxiety symptoms (6, 10, 11, 14). Jerabeck confirmed the construct validity of this scale through factor analysis, verifying its five-factor structure. Additionally, Jerabeck reported the reliability with a Cronbach's alpha coefficient as 0.86 (19). In Iran, the reliability of this questionnaire was calculated using Cronbach's alpha (0.59) and split-half reliability (0.74) (20).

We analyzed the data using descriptive and inferential statistics (mean and standard deviation). SPSS 27 software was used for data analysis.

Results

The sample group is analyzed based on age, education level, and number of children. Based on the number of children, in the experimental group, five individuals (33.3%) had 1 to 3 children, five individuals (33.3%) had 4 to 7 children, and five individuals (33.3%) had 8 to 11 children. In the control group, three individuals (20%) had 1 to 3 children, seven individuals (46.7%) had 4 to 7 children, and five individuals (33.3%) had 8 to 11 children.

Regarding education levels in the experimental group, 6 individuals (40.0%) were illiterate, 6 individuals (40.0%) had elementary school degree, 1 individual (6.7%) had middle school degree, and 2 individuals (13.3%) had diploma, while in the control group, 6 individuals (40.0%) were illiterate, 6 individuals (40.0%) had elementary school degree, and 3 individual (20%) had middle school degree. Regarding the age variable in the experimental group, 2 individuals (13.3%) aged 20-30, 5 individuals (33.3%) aged 31-40, and 8 individuals (53.3%) aged 41-50, while in the control group, 2 individuals (13.3%) aged 20-30, 7 individuals (46.7%) aged 31-40, and 6 individuals (40.0%) aged 41-50.

The results of the Chi-square homogeneity test indicated no significant difference between the two groups in terms of age, education level, and number of children. Therefore, both groups are homogeneous.

One of the prerequisites for ANCOVA is the equality of error variances, which was assessed using Levene's test. The results of Levene's test for equality of error variances showed that the probability values for all examined variables are greater than 0.05. In other words, the error variances of social self-efficacy and social anxiety variables did not differ significantly between the pre-test and post-test stages. Table 2 presents the means and standard deviations of female heads of households' scores for the social self-efficacy variable in both groups. Its assumptions were first examined to perform a one-way analysis of covariance (ANCOVA). The condition of equal variances between groups has been met based on Levene's test and its non-significance for the social self-efficacy variable ($P < 0.05$). Furthermore, the analysis of the homogeneity of regression slopes, a prerequisite for ANCOVA, indicated that the assumption of homogeneity of regression slopes has been met ($p < 0.05$).

The normality of the variables distribution was assessed using the Shapiro-Wilk test. The non-significance of the test results ($P < 0.05$) confirmed that the variables had normal distribution. Table 3 indicated a significant difference between the mean social self-efficacy scores of the groups ($P < 0.000$). In other words, mindfulness-based cognitive therapy effectively improved social self-efficacy in women.

Table 2. Mean and standard deviation of the social self-efficacy in the pre-test and post-test stages

Group	Experimental group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Social self-efficacy	58.35	2.19	79.37	2.71	54.79	2.48	55.68	2.42

Table 3. Results of ANCOVA of social self-efficacy

Source of variation	Sum of squares	Degrees of freedom	Mean squares	F statistic	P	Eta squared
Group membership	38.79	1	38.79	8.68	0.001	0.79

Table 4. Descriptive statistics of social anxiety indices

Variable	Experimental group		Control group		Experimental group		Control group	
	Pre-test		Post-test		Pre-test		Post-test	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Fear of strangers	18.08	1.80	22.59	2.68	15.98	1.20	23.80	1.90
Fear of evaluation by others	9.90	1.30	12.98	2.07	7.13	1.60	14.01	2.40
Fear of public speaking	10.50	1.80	12.38	2.17	8.02	1.60	13.98	2.50
Fear of social isolation	11.86	1.90	13.96	2.50	10.98	1.40	14.02	2.30
Fear of visible symptoms of anxiety	10.90	4.02	12.54	2.52	8.58	3.20	13.89	2.10

Table 5. Results of Wilks' Lambda test for post-test scores of a dependent variable with controlled pre-test scores

Variable	Eigenvalue	F	Degrees of freedom	Degrees of freedom of error	P	Eta	Statistical power
Pre-test social anxiety	0.48	13.72	2		0.001	0.56	0.99
Group membership	0.69	5.38	2	23	0.01	0.38	0.79

As observed in Table 4, the intervention group pre-test scores for social anxiety were higher than those of the control group. However, in the post-test, the intervention group scores significantly decreased compared to the control group. Wilk's Lambda test demonstrates that the intervention had a significant overall effect on the dependent variables in the post-test phase after controlling for pre-test scores. These results indicated a significant difference between the two groups in at least one of the dependent variables.

Discussion

This study aimed to investigate the effectiveness of MBCT in improving social self-efficacy and social anxiety in female household heads. Regarding the effectiveness of the intervention on social self-efficacy, the results indicated that MBCT influenced social self-efficacy in female household heads. These findings align with the results of previous studies (9,21-24). In the study by Azadin et al. MBCT was implemented with adolescent girls

aged 12 to 18 under welfare services. Additionally, the tool used to assess social self-efficacy in that study was specifically designed for adolescents, underscoring the importance of conducting research that also evaluates this scale in adults (9).

Chang investigated the effects of MBCT on women with breast cancer, focusing on its impact on reducing anxiety, depression, and pain while also enhancing mindfulness levels. The results suggested that MBCT can serve as an effective tool for improving mental health. The present findings align with this, as female heads of households may also face similar psychological and social challenges (25). However, in the study by Kuyken and colleagues (26), MBCT was found to be less effective for individuals with severe depression or those with more complex psychological and social issues (26). To explain the impact of MBCT training on social self-efficacy, it is important first to understand that mindfulness training helps individuals move away from dwelling on the past and reduces self-blame for

previous events. It also encourages abstaining from negative judgments about oneself and others. MBCT changes how individuals evaluate various events, leading them to abandon negative self-judgments and effectively cope with stressful situations, individuals, and environmental conditions. Letting go of negative self-judgments, effectively dealing with challenges, and increasing self-control can enhance self-efficacy. One of the key principles of mindfulness is "letting go." The mindfulness approach suggests that humans generally cling to beliefs, specific times, particular events, a view, a desire, and so on. This clinging makes individuals vulnerable and helpless, intensifying the feeling of losing control over their lives. However, when the female heads of households learned to let go of these problems using mental imagery techniques and gained more insight and acceptance towards them, they could examine the issues with a more open and clear mind. This theory measures mental health by an individual's ability to detach from engagement in emotional and cognitive activities of the mind and instead focus awareness on present events without dwelling on the past or future. This state enables female heads of households to approach distressing emotions and feelings with an accepting and flexible mindset rather than avoidance, which prolongs their impact (24).

A key factor in understanding the observed increase in social self-efficacy is the potential for altered perceptions of others among the female heads of households due to their participation in a supportive group setting. Furthermore, aligning with Bandura's theory, the most effective method for enhancing social self-efficacy is creating opportunities for individuals to successfully experience skill development that bolsters self-confidence, a condition provided within this intervention for the study participants (22). This therapeutic approach encourages individuals to focus on their present-moment experiences, including bodily sensations, internal feelings, thoughts, and emotions, and environmental aspects like sights and sounds, all without judgment. This process of non-judgmental observation facilitates improvement in social self-efficacy and reduces social anxiety. The second finding of this research demonstrated a significant reduction in social anxiety levels among female heads of households following MBCT. This finding

aligns with the findings of the conducted studies (27-32).

In the study by Parkins, mindfulness-based cognitive therapy is highlighted as one of the effective third-generation cognitive-behavioral treatments, demonstrating a positive impact on the psychological issues of children and adolescents. However, once again, a study conducted on adults has been overlooked (33). Furthermore, the study by Aguilar-Raab, which investigated the impact of mindfulness interventions on medical students, demonstrated that mindfulness techniques can effectively reduce stress and improve physiological responses to stress. These effects may indirectly contribute to reducing social anxiety as well since social anxiety is often associated with high levels of stress and worry (34). Hoge et al. investigated the effectiveness of mindfulness-based interventions compared to antidepressant medication, such as escitalopram, for the treatment of anxiety disorders. The study population consisted of adults aged 18 to 75 with a primary diagnosis of anxiety disorders, such as social anxiety disorder. The results indicated that Mindfulness-Based Stress Reduction (MBSR) produced outcomes nearly equivalent to escitalopram. Moreover, it was associated with fewer side effects than pharmacological treatment (30).

In explaining these findings, it can be argued that the results suggest mindfulness practice may serve as a suitable alternative to conventional psychological treatments for anxiety disorders. This is particularly relevant for individuals who are reluctant to participate in traditional therapy sessions or those who do not respond well to such treatments. Overall, the findings of the present study indicated that mindfulness-based cognitive therapy improved social self-efficacy and reduced social anxiety.

Like other studies, the present research faced limitations, including a restricted study population of female heads of households in centers supervised by welfare organizations and charities in Mashhad. Another limitation was the lack of random sampling, which suggests that future researchers should not only control for the influential variables mentioned but also employ random sampling to enhance the generalizability of the results. Given the limitations, it is recommended that other researchers replicate this study in different cities (to minimize the impact of cultural differences) to mitigate the effects of these constraints. One of the limitations

of this research was the inability to conduct long-term follow-ups, which necessitated caution in generalizing the findings. Therefore, it is advised that future researchers evaluate the results using long-term follow-ups to ensure greater confidence in their generalizability. Considering the effectiveness of mindfulness-based cognitive therapy training on social self-efficacy and social anxiety among female heads of households, it is practically recommended that authorities in support centers, while prioritizing the mental health of these women, also engage experienced psychologists, psychiatric nurses, and counselors to provide effective psychological services to female heads of households.

Conclusion

The findings indicated that mindfulness-based cognitive therapy can serve as an effective therapeutic approach for improving social self-efficacy and reducing social anxiety among female heads of households. This result highlights the importance of mindfulness-based interventions and emphasizes the need for increased attention to the psychological well-being of this group of women.

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Conflict of Interest

The authors declare no conflict of interest related to this study.

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Ethical Considerations

The study protocol was approved by the ethical committee of Mashhad University of Medical Sciences, and informed consent was obtained from all the participants.

Code of Ethics

IR.UM.REC.1403.111

Authors Contributions

All authors have substantially contributed to the research and manuscript preparation. Moeini Zadeh (M.Z.) and Tamizgaran (T.) were responsible for the study design and implementation. M.Z. additionally conducted the data analysis and interpretation. Salehi (S.) drafted the initial manuscript, while S. and T. provided critical revisions to enhance its quality. All authors reviewed and approved the final version of the manuscript, taking full responsibility for its content.

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