



Effectiveness Of Mindfulness-Based Cognitive Therapy on Emotional Cognitive Regulation and Mental Health In Employees with Burnout in Isfahan Gas Company

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Abstract: The aim of this study was to determine the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on emotional cognitive regulation and mental health in employees experiencing burnout at Isfahan Gas Company. The method used was a quasi-experimental design with pre-test-post-test and a control group waiting for treatment. The statistical population of this research comprised the employees of Isfahan Gas Company in 2019. Using the burnout questionnaire (MBI), 30 individuals with burnout were selected based on inclusion and exclusion criteria. They were then randomly assigned into control and experimental groups (15 people in each group). The experimental group received 8 sessions of mindfulness-based cognitive therapy training, while the control group did not participate in these sessions. The research instruments used included the Mental Health Questionnaire (GHQ), the Job Burnout Questionnaire (MBI), and the Cognitive Emotional Regulation Questionnaire (CERS). The data were analyzed using SPSS-24 software and analysis of covariance. The results showed that the intervention (MBCT) improved mental health and emotional cognitive regulation in the experimental group compared to the control group. Therefore, Mindfulness-Based Cognitive Therapy (MBCT) proved to be effective in enhancing emotional cognitive regulation and mental health among employees experiencing burnout. It is recommended to use this intervention to improve the mental health and related components of employees in industrial companies.

Keywords: Emotional cognitive regulation, Mental health, Employees experiencing burnout, Mindfulness-Based Cognitive Therapy (MBCT)

Introduction

Job burnout is a critical challenge that often arises due to work and organizational pressures faced by employees in various organizations. It is an inevitable outcome of job stress, resulting in an inability to perform job duties effectively. This phenomenon leads to a negative outlook towards work and a breakdown in regular communication with clients (Nwafor et al., 2015). Individuals who are affected by job burnout often exhibit symptoms such as discomfort, fatigue, intolerance towards others, irritability, distancing themselves from colleagues, and anger. These symptoms can cause them to become unbearable to work with (Salimi et al., 2017). Research results aimed at the impact of cognitive-behavioral therapy and mindfulness on stress and burnout have shown that both therapies reduce stress and burnout (Anclair et al., 2018; Safikhani et al., 2021).

In addition to disrupting job processes, job burnout can have adverse impacts on an individual's psychological, emotional, and social well-being. Employees experiencing burnout symptoms often struggle with emotional cognitive regulation, which is closely linked to burnout ([Easazadeh, 2016](#); [Hosseinian et al., 2014](#); [Johnson et al., 2017](#)). Emotional cognitive regulation is a process by which individuals identify which emotions to express, how and when to express them ([Gresham & Gullone, 2012](#); [Yousefi et al., 2021](#)). Studies indicate that emotional cognitive regulation can be effectively improved through a three-stage process involving the identification of the need for emotion regulation, selection of a regulation strategy, and approval of the chosen strategy. This approach has been shown to effectively address various clinical problems ([Webb et al., 2012](#)).

Job burnout impacts not only an individual's emotional processes but also their psychological well-being. Mental health is one of the crucial psychological components that is significantly affected by job burnout ([Konstantinou et al., 2018](#); [O'Connor et al., 2018](#); [Sanagoo et al., 2015](#)). On the other hand, benefiting from mental health can also reduce job burnout, and this means that there is a reciprocal inverse relationship between mental health and job burnout ([Ghane et al., 2018](#)). Mental health plays an important role in ensuring the dynamism and effectiveness of any society, so that one of the evaluation axes of the health of different communities is the mental health of that community ([Koller & Bertel, 2006](#)).

Various approaches such as cognitive-behavioral therapy ([Butler, 2007](#); [Gyllensten & Palmer, 2005](#)) have been used to maintain mental health and reduce stress in various tissues. In addition, in conducted studies, the effectiveness of mindfulness-based cognitive therapy has been confirmed. Mindfulness-based interventions have been effective in individuals with chronic diseases ([Bohlmeijer et al., 2010](#)), psychological disorders ([Hofmann et al., 2010](#)), depression ([Ames et al., 2014](#)), stress reduction ([Gross et al., 2010](#)) and anxiety ([Hofmann & Gómez, 2017](#)).

Mindfulness exercises can create changes in thinking patterns and mental health ([Masuda & Tully, 2012](#)). In addition, mindfulness training has been effective in mental health ([Ghane et al., 2018](#)) and resilience and emotion regulation strategies ([Jafari Shalkoohi et al., 2020](#)). Mindfulness means paying special, purposeful attention to the present moment, without judgment or bias. All exercises of this method enable attention to physical and environmental situations in the present moment and reduce automatic processing ([Segal et al., 2018](#)). Research results indicate that mindfulness is an effective intervention for treating psychological symptoms ([Grossman et al., 2004](#); [Perry-Parrish et al., 2016](#)) and mindfulness training leads to improved mental health by increasing attention and awareness of thoughts, emotions, practical tendencies, coordinating adaptive behaviors, positive psychological states, and

enhancing individual abilities for individual and social activities ([Ghane et al., 2018](#); [Metcalf & Dimidjian, 2014](#)).

In light of the negative effects of job burnout and the fact that the psychological and occupational well-being of employees with burnout symptoms is often overlooked, combined with the significant impact burnout can have on various aspects of their lives, such as personal, social, and work-related areas, it is crucial to implement measures to enhance the psychological, emotional, and occupational aspects of these individuals to avoid further harm. As a result, the objective of this research is to evaluate the efficacy of mindfulness-based cognitive therapy in promoting emotional cognitive regulation and mental health in employees experiencing burnout at Isfahan Gas Company.

Material and Methods

This research utilized a pretest-posttest design and a waiting control group as part of a quasi-experimental study. The participants consisted of Isfahan Gas Company employees during the winter of 2018, with 30 individuals experiencing job burnout symptoms being purposefully selected based on specific criteria using the Maslach Burnout Inventory (MBI) questionnaire. Sample size calculations were performed, resulting in 12 participants being assigned to each group; however, an additional three subjects were included in each group to account for potential sample attrition and non-cooperation. Participants meeting the research criteria were randomly assigned to either the experimental group or the waiting control group, with inclusion criteria including no acute psychiatric disorder, not receiving psychological treatment during the study, and obtaining a score above the MBI questionnaire cut-off score. Exclusion criteria included absenteeism from more than two treatment sessions, irregular attendance at therapy sessions, and non-cooperation with the researcher. All participants completed the "Informed Consent Form to Participate in the Research Project" and were assured of the confidentiality of the information. Research tools included the General Health Questionnaire (GHQ), the Maslach Burnout Inventory (MBI), and Cognitive Emotion Regulation Scale (CERS). Data were analyzed using SPSS-24 software with repeated measures analysis of variance.

Instruments

Maslach and Jackson Job Burnout Questionnaire: This questionnaire consists of 25 questions that measure four factors. The first nine questions measure emotional exhaustion, the second eight questions measure personal accomplishment, the third five questions measure depersonalization, and the fourth three questions measure engagement. This questionnaire measures all four dimensions of job burnout. [Maslach and Jackson \(1981\)](#) calculated the internal consistency of the Maslach Burnout Inventory (MBI) questionnaire using Cronbach's alpha for frequency at 0.83 and for intensity at 0.84. The overall

reliability coefficient of the questionnaire was calculated to be 0.82 for frequency and 0.53 for intensity. According to reports by [Filian \(1992\)](#), the internal consistency stability of the Maslach Burnout Inventory indicated strong correlations ($r = 0.79$) between the responses given in two retest stages. In a preliminary study conducted by [Badri Gargari \(1995\)](#), the following psychometric properties were obtained: the Cronbach's alpha coefficient of emotional exhaustion was 0.84, and the Cronbach's alpha coefficient of depersonalization was 0.74.

Cognitive Emotion Regulation Questionnaire: The 36-item emotion regulation questionnaire was developed in English and Dutch by [Garnefski et al. \(2001\)](#). The questionnaire is composed of nine subscales as follows: self-blame (questions 1, 10, 19, 28), acceptance (questions 2, 11, 20, 29), rumination (questions 3, 12, 21, 30), positive refocusing (questions 4, 13, 22, 31), positive reappraisal (questions 5, 16, 24, 33), putting into perspective (questions 7, 16, 25, 34), catastrophizing (questions 8, 17, 26, 35), and other-blame (questions 9, 18, 27, 36). Each question is scored from one (never) to five (always). High scores on each subscale indicate greater use of the coping strategy in response to stressful and negative events. Positive cognitive regulation includes the subscales of acceptance (questions 2, 11, 20, 29), positive refocusing (questions 4, 13, 22, 31), positive reappraisal (questions 5, 16, 24, 33), putting into perspective (questions 7, 16, 25, 34), and putting into perspective (questions 7, 16, 25, 34). Negative cognitive regulation includes the subscales of self-blame (questions 1, 10, 19, 28), rumination (questions 3, 12, 21, 30), catastrophizing (questions 8, 17, 26, 35), and other-blame (questions 9, 18, 27, 36). In this questionnaire, the individual is asked to evaluate their response to recent threatening experiences and stressful life events using five questions (scored from zero to four) that assess strategies for controlling and regulating emotion. In the present study, the reliability of this questionnaire was calculated to be 0.87 using Cronbach's alpha.

General Health Questionnaire(GHQ): This 28-item questionnaire was developed by Goldberg and Hiller in 1979 ([Goldberg, 1979](#)) and consists of four subscales, each containing seven questions. The subscales are somatic symptoms, anxiety and sleeplessness, social dysfunction, and severe depression. Items 1 to 7 of the questionnaire assess somatic symptoms, items 8 to 14 assess anxiety and sleep disorders, items 15 to 21 assess social functioning, and items 22 to 28 assess depression symptoms. Scores are assigned as follows: A=0, B=1, C=2, and D=3. The score range is between 28 and 84, with a lower score indicating better psychological health. A score of 62 or less indicates good psychological health. The reliability coefficient of the questionnaire was calculated to be 0.86 using Cronbach's alpha ([Noorbakhsh et al., 2005](#)). In the present study, the reliability of the questionnaire was calculated to be 0.89 using Cronbach's alpha.

Interventions

Mindfulness-based cognitive therapy was provided to the experimental group, with therapy sessions held once a week on Wednesdays for eight sessions in the conference hall of Isfahan Gas Company, each lasting 60 minutes. The content of the sessions based on the 8-session package of mindfulness-based cognitive therapy is described in Table 1.

Table 1. Summary of the mindfulness-based cognitive therapy sessions

Session	Aim	Content
1	Getting to know the members of the group and establishing a therapeutic relationship, stating the rules of the group	Introduction, providing an overview of upcoming meeting plans and introducing the mindfulness program, practicing eating raisins and checking the body, moment-to-moment experience and completing the home note form for homework
2	Challenge with obstacles	Reviewing the assignments of the previous session, practicing ten minutes of breathing with mindfulness, the note form of pleasant events
3	Mindfulness while moving	Reviewing the assignments of the previous session, stretching exercises with mindfulness, conscious walking practice, body check practice, unpleasant events note form.
4	Staying in the moment	Examining the assignment and reviewing the contents of the previous session, practicing mindfulness of listening and thinking, the story of hungry tigers, three-minute pause practice, body inspection practice
5	Accept and allow	Examining the assignment and reviewing the contents of the previous session, sitting meditation practice with awareness of breathing and body, acceptance, practice of creating a problem and working on it through the body, three-minute pause practice, body inspection practice
6	Understanding that thoughts are not reality	Examining the assignment and reviewing the contents of the previous session, alternate thoughts, three-minute pause practice and watching thoughts, body inspection practice
7	Self-care	Examining the homework and reviewing the contents of the previous session, the relationship between mood and emotions, how to take care of ourselves in the best way, body inspection exercise, list of energizing and tiring activities.
8	Applying learnings and practices in the future	Examining the assignment and review of the previous session, body review, learning review, planning and obstacle review

Results

The mean and standard deviation of the components of general health (physical symptoms, anxiety and sleep disorders, social dysfunction, and depression) and cognitive emotion regulation (acceptance, positive refocusing, positive reappraisal, positive refocusing on planning, perspective-taking, blaming others, self-blame, catastrophizing, and rumination) among employees with job burnout in Isfahan Gas Company are presented in Table 2. Also, according to Table 3, the assumptions of variance homogeneity (Levene's test) and normality of score distribution (Kolmogorov-Smirnov test) were tested and confirmed.

Table 2. Components of cognitive emotion regulation and general health among employees

Variable			Phase	Group			
				Experimental		Control	
				Mean	SD	Mean	SD
Cognitive emotion regulation	Adaptive strategies	Reception	Pretest	10.66	2.58	13.4	2.13
			Posttest	11.53	1.99	12.80	2.48
		Positive refocusing	Pretest	64.53	4.84	64.93	6.04
			Posttest	60.80	2.42	64.40	5.64
		Refocus on planning	Pretest	13.06	1.83	12.80	2.07
			Posttest	15	1.51	12.86	2.06
		Positive reassessment	Pretest	14.26	2.65	14.13	2.32
			Posttest	15.87	1.99	14.04	2.65
	Maladaptive strategies	Adopt a perspective	Pretest	13.40	2.13	13.80	1.85
			Posttest	15.13	1.72	13.06	1.75
		Blame others	Pretest	12.60	2.69	12.06	2.25
			Posttest	10.20	1.56	11.73	2.63
		rumination	Pretest	12.80	3.68	12.73	2.65
			Posttest	11.73	3.26	12.40	2.89
		Catastrophic	Pretest	10.13	2.06	11.13	3.04
			Posttest	8.53	1.40	11.06	3.23
General health		Blame yourself	Pretest	12.73	2.65	12.13	2.23
			Posttest	10.60	2.06	11.80	2.78
		Somatic symptoms	Pretest	15.40	2.47	15.87	2.69
			Posttest	13.06	2.25	15	2.10
		Anxiety and sleep disorder	Pretest	15.30	3.74	15.40	3.45
			Posttest	12.60	2.47	14.67	2.82
		Disruption of social function	Pretest	5.73	2.31	7.60	0.73
			Posttest	5.93	2.12	7.46	0.74
		Depression	Pretest	17.47	2.74	18.80	2.85
			Posttest	15.27	2.05	18.07	3.01
		General health (total)	Pretest	53.73	8.34	57.66	7.88
			Posttest	46.87	6.43	55.20	6.57

Table 3. The results of Kolmogorov-Smirnov normality test and Levin's homogeneity of variance test

Variable		K-S test		Levene's test			
		Statistic	p	F	Df1	Df2	p
Cognitive emotion regulation	Reception	0.17	0.056	0.68	1	28	0.41
	Positive refocusing	0.10	0.20	0.506	1	28	0.48
	Refocus on planning	0.09	0.20	1.05	1	28	0.31
	Positive reassessment	0.16	0.08	0.04	1	28	0.83
	Adopt a perspective	0.18	0.05	0.02	1	28	0.87
	Blame others	0.12	0.20	1.06	1	28	0.31
	Rumination	0.15	0.07	0.12	1	28	0.72
	Catastrophic	0.10	0.20	2.44	1	28	0.12
General health	Blame yourself	0.15	0.06	0.005	1	28	0.94
	Somatic symptoms	0.17	0.06	0.68	1	28	0.41
	Anxiety and sleep disorder	0.10	0.20	0.51	1	28	0.48
	Disruption of social function	0.09	0.20	1.05	1	28	0.31
	Depression	0.16	0.08	0.05	1	28	0.83
General health (total)		0.16	0.05	0.02	1	28	0.87

Hypothesis 1: Mindfulness-based therapy has an impact on the general health of employees with job burnout in Isfahan Gas Company.

To examine the effectiveness of mindfulness-based therapy on general health and its components, the ANCOVA and MANCOVA analysis were used. After removing the effect of covariates on the dependent variable and based on the calculated F value, it was observed that there is a significant difference between the adjusted means of general health scores based on group membership (experimental group and control group) in the post-test phase ($p < 0.01$) (Table 4).

Table 4. Results of the analysis of covariance on the effect of group membership on the level of general health scores

Variable	Source	SS	DF	MS	F	p	Effect size	Power
General health	Group membership	208.514	1	208.514	30.68	0.001	0.53	0.99
	Error	183.502	27	6.79	-	-	-	-

Therefore, hypothesis 1 was confirmed. Thus, mindfulness-based therapy had an effect on the general health of employees with job burnout, with an effect size of 53.2%. The results of the MANCOVA analysis on the mean components of general health are presented in Table 5.

Table 5. The results of the MANCOVA analysis on the mean components of general health

Test	Value	F	Hypothesis DF	Error DF	p	Effect size	Power
Wilks' lambda	0.43	6.76	4	21	0.001	0.56	0.97

According to Table 5, the significant levels of the test indicate that mindfulness-based therapy reduced at least one of the mean scores of somatic symptoms, anxiety and sleep disorders, social dysfunction, and depression in the experimental group compared to the control group in the post-test phase ($p < 0.001$, $F = 6.760$). The results of the MANCOVA analysis showed that the effect size was 0.563, meaning that 56.3% of individual differences in the scores of somatic symptoms, anxiety and sleep disorders, social dysfunction, and primary depression were related to group membership. The statistical power was close to 1, indicating adequate sample size.

Table 6. The results of MANCOA analysis of the effect of group membership on the scores of general health components

Variable		SS	DF	MS	F	p	Effect size	Power
Somatic symptoms	Group membership	15.33	1	15.33	6.59	0.017	0.21	0.69
	Error	55.82	24	2.32	-	-	-	-
Anxiety and sleep disorder	Group membership	10.17	1	10.17	5.73	0.02	0.19	0.63
	Error	42.59	24	1.77	-	-	-	-
Disruption of social function	Group membership	0.045	1	0.045	0.10	0.74	0.004	0.061
	Error	10.21	24	0.42	-	-	-	-
Depression	Group membership	20.21	1	20.21	12.62	0.002	0.34	0.92
	Error	38.42	24	1.60	-	-	-	-

According to Table 6, there was a significant difference between the adjusted means of somatic symptoms, anxiety and sleep disorders, and depression based on group membership (experimental group and control group) in the post-test phase ($p < 0.01$). Therefore, mindfulness-based therapy had an effect on somatic symptoms, anxiety and sleep disorders, and depression of employees with job burnout, with effect sizes of 21.5%, 19.3%, and 34.5%, respectively. However, this therapy did not have a significant effect on social dysfunction.

Hypothesis 2: Mindfulness-based therapy has an impact on emotion regulation of employees with job burnout in Isfahan Gas Company.

To test this hypothesis, a MANCOVA analysis was conducted on the mean components of emotion regulation. The results of this analysis are provided in Tables 7 and 8.

Table 7. Results of MANCOVA analysis on the components of emotion regulation

Test	Value	F	Hypothesis DF	Error DF	p	Effect size	Power
Wilks' lambda	0.18	5.25	9	11	0.006	0.61	0.95

According to Table 7, the significant levels of the test indicate that mindfulness-based therapy reduced at least one of the mean scores of emotion regulation in the experimental group compared to the control group in the post-test phase ($p < 0.001$, $F = 5.250$). The results of the MANCOVA analysis showed that the effect size was 0.610, meaning that 61% of individual differences in the scores of emotion regulation were related to group membership. The statistical power was close to 1, indicating adequate sample size.

Table 8. The results of MANCOVA analysis of the effect of group membership on the scores of emotion regulation components

Variable		SS	DF	MS	F	p	Effect size	Power
Reception	Group membership	7.20	1	7.20	4.82	.04	0.20	0.65
	Error	28.35	19	1.49	-	-	-	-
Positive refocusing	Group membership	9.58	1	9.58	4.68	0.04	0.19	0.63
	Error	38.84	19	2.04	-	-	-	-
Refocus on planning	Group membership	8.07	1	8.07	4.97	0.03	0.20	0.66
	Error	30.81	19	1.62	-	-	-	-
Positive reassessment	Group membership	12.28	1	12.28	5.43	0.03	0.22	0.60
	Error	42.92	19	2.25	-	-	-	-
Take a perspective	Group membership	10.33	1	10.33	4.79	0.04	0.20	0.64
	Error	40.93	19	2.15	-	-	-	-
Blame others	Group membership	15.49	1	15.49	5.02	0.03	0.21	0.66
	Error	58.27	19	3.06	-	-	-	-
Rumination	Group membership	9.80	1	9.80	5.14	0.03	0.21	0.67
	Error	36.22	19	1.91	-	-	-	-
Catastrophic	Group membership	14.20	1	14.20	5.36	0.03	0.22	0.69
	Error	50.32	19	2.64	-	-	-	-
Blame yourself	Group membership	11.11	1	11.11	4.91	0.03	0.20	0.65
	Error	42.94	19	2.26	-	-	-	-

According to Table 8, there was a significant difference between the adjusted means of emotion regulation scores based on group membership (experimental group and control group) in the post-test

phase ($p < 0.01$). Therefore, mindfulness-based therapy had an effect on emotion regulation of employees with job burnout, with an effect size of 50.0%. Thus, hypothesis 2 was confirmed. Therefore, mindfulness-based therapy had an impact on the components of emotion regulation of employees with job burnout.

Discussion

The purpose of this study was to examine the effectiveness of mindfulness-based cognitive therapy in improving cognitive-emotional regulation and mental health among employees experiencing job burnout at the Isfahan Gas Company. The results, indicated that mindfulness-based cognitive therapy had a positive impact on the total mental health of employees with job burnout in the experimental group. These findings align with previous research conducted by [Bohlmeijer et al. \(2010\)](#), who demonstrated the positive effects of mindfulness-based therapy on chronic illnesses, as well as the study by [Hofmann et al. \(2010\)](#), which highlighted the benefits of mindfulness therapy in addressing psychological disorders. Furthermore, the findings are consistent with the research conducted by [Ghane et al. \(2018\)](#), as well as [Rastgoo et al. \(2016\)](#), indicating the positive effects of mindfulness training on personal well-being, mental health, and job burnout. It can be argued that mindfulness-based therapy aims to cultivate present-moment awareness and the ability to observe changes in both the body and mind, allowing individuals to disentangle themselves from painful thoughts. Consequently, individuals gradually develop the capacity to let unpleasant thoughts, emotions, and bodily sensations fade away without reacting to them. They learn to take a step back, observe their thoughts, and consider alternative perspectives. In essence, mindfulness fosters an attitude of non-judgmental acceptance towards experiences and cultivates awareness of perceptions, cognitive processes, emotions, and bodily sensations without evaluating them as good or bad, true or false, healthy or unhealthy, important or unimportant.

Research indicates that failing to attend to emotions and feelings in the present moment can lead to increased anxiety and stress ([Shapiro et al., 2006](#)). However, by consistently paying attention to emotions associated with anxiety and refraining from avoidance, it is possible to reduce emotional reactivity that typically accompanies anxiety symptoms. Therefore, mindfulness can assist individuals in experiencing emotions as they arise, without evaluating them as inherently positive or negative, and utilizing more adaptive strategies instead of avoiding emotions ([Yaghoubi et al., 2018](#)). Mindfulness-based therapy teaches various skills, such as focused breathing meditation, body scanning, and yoga exercises, enabling individuals to accept their internal states rather than relying on habitual and automatic reactions or attempting to escape from undesirable states. These mindfulness exercises,

particularly in the intrapersonal dimension, bring about changes in coping mechanisms for emotions and enhance emotion regulation skills. Consequently, individuals are more likely to engage in constructive behaviors when faced with negative emotions such as anxiety, depression, and anger. The ability to practice mindfulness is predictive of self-regulation and positive emotional states, leading to increased personal satisfaction and an improved quality of life. The greater individuals' awareness of their beliefs, cognitive processes, and thoughts through the learning of mindfulness skills, the more effectively they can evaluate different situations and take appropriate actions.

Based on the study's findings, it is recommended that researchers incorporate mindfulness therapy as a means to address various psychological issues in employees. Additionally, it is suggested that other therapeutic interventions focusing on organizational variables, such as job burnout, should be implemented.

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