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Effectiveness of Bioenergy Economy-based Health Improvement versus Mindfulness-based Stress Reduction on the Occupational Stress and Psychosomatic Symptoms of Distressed Employees

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Quantitative Study

Abstract

Background: Career stress is one of the most important and challenging risk factors among employees because of its vast effect on mental and physical health. This research was conducted with the aim to compare the effectiveness of mindfulness-based stress reduction (MBSR) and bioenergy economy-based health improvement (BEHI) program on occupational stress and psychosomatic symptoms of distressed employees.

Methods: This quasi-experimental study was conducted using a pretest-posttest design. The targeted population of the study comprised all employees of the customer service management department of Telecommunications Company in Isfahan, Iran, in the year 2018. Purposeful sampling was employed, and 60 candidates exhibiting distress symptoms were randomly assigned to 3 groups (MBSR, BEHI, and control groups), each consisting of 20 individuals. Data collection was performed using the Kessler Psychological Distress Scale (K6; Kessler et al., 2003), Stressful Life Event (SLE) Questionnaire (Roohafza et al., 2011), Occupational Stress Questionnaire (Cousins et al., 2004), and Screening for Somatoform Symptoms-7 (SOMS-7) questionnaire (Ebrahimi et al., 2018). The experimental groups participated in the MBSR (Kabat-Zinn, 1990) and BEHI (Goli, 2022) program training sessions. The control group received no intervention. The data were assessed in SPSS software.

Results: Both the BEHI program and MBSR therapy significantly decreased the occupational stress (F = 2.78) and psychosomatic symptoms (F = 3.63) of distressed employees (P < 0.05). However, there was no significant difference between the mean scores of the experimental groups in the posttest (P > 0.05).

Conclusion: Both programs could reduce the employees' distress on worksites and could be beneficial for healers to mitigate the psychosomatic manifestations of occupational stressors.

Keywords: Occupational stress; Psychological distress; Mindfulness; Psychosomatic medicine; Bioenergy economy

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Introduction

Occupational stress is one of the most important factors of stress in employees and workers. It is considered as one of the major environmental challenges that put the physical and mental health of individuals at risk. It is a result of the conception that the threats or demands are much more than the employee's capacity to cope (Nowrouzi, Nguyen, Casole, & Nowrouzi-Kia, 2017). The association between medicine and psychology has a long history and this relation is more prominent in psychosomatic diseases. The human psyche is directly influenced by his physical condition. Reciprocally, the body and the organs' function are also affected by the individual's mental and nervous condition. As many employees are struggling with personal, professional, and work environment stressors, it becomes probable for the staff to face occupational stress, anxiety, depression, and overall reduced quality of life (QOL). This occupational stress often causes mental distress that has destructive effects on the body and mind of individuals. Moreover, concomitant with stressinduced physiologic problems, many psychosomatic symptoms also appear. Hence, many psychological interventions have been applied to moderate occupational stress and its impact on everyday life. Mindfulness and cognitive-behavioral therapies have been the most successful of these interventions (Clough, March, Chan, Casey, Phillips, & Ireland, 2017; Restrepo & Lemos, 2021).

Mindfulness education is a common methodology applied to stress-related therapies. A reputable method is mindfulness-based stress reduction (MBSR), which is known as a relaxation training program. MBSR was first used by Kabat-Zinn for a wide range of people with stress-related disorders and chronic pain (Kabat-Zinn, 1990). In its paradigm, mindfulness means the intentional attention of the individual to the experience that is currently going on. This attention has non-judgmental characteristics and is accompanied by acceptance. MBSR practices reduce the role of tunneled awareness of the patients. Furthermore, these trainings diminish the emotional and behavioral disturbing effects of their psychological experiences (Anheyer, Haller, Barth, Lauche, Dobos, & Cramer, 2017; Conversano et al., 2021; Khoury, Sharma, Rush, & Fournier, 2015; Raja-Khan et al., 2017). On the other hand, methods based on energy medicine are introducing unique healing approaches. These methods are based on the belief that human beings are all surrounded by a field of energy that is flowing among and around them, and it has a constant and continuous collaboration with the surrounding world. In the condition of health, energy is flowing freely (Goli, 2010). In this regard, Bioenergy Economy-based Health Improvement (BEHI) is a complete model that provides a framework and method for interpreting and using energy-based treatments in clinical and educational settings. BEHI program activates salutogenesis, benefiting from ideological deductions and improving psycho-neuro-immunologic pathways. It can be considered a psychosomatic approach to medicine that organizes the vital energy in the intra-, inter-, and transpersonal domains to develop health and awareness (Goli, 2022). Hitherto, behavioral science experts and psychologists have sought to adjust and reduce employees' various mental and psychological pressures in different aspects (Carolan, Harris, & Cavanagh, 2017; Joyce et al., 2016; Ryan et al., 2021). Accordingly, the use of psychological interventions was effective in reducing many of these pressures. However, the intersection of various mind-body approaches has not been vastly surveyed (Artemiou, Gilbert, Callanan, Marchi, & Bergfelt, 2018; Burnett & Pettijohn, 2015; Siu et al., 2024; Wolever et al., 2012).

Based on the structural and functional similarities, BEHI and MBSR methods were selected for this work. This quasi-experimental study was conducted to assess the superiority/interchangeability of these methods. Therefore, in this study, the BEHI program versus the MBSR method has been researched to investigate their effect on occupational stress and psychosomatic symptoms of distressed employees.

Methods

Study design and participants

This quasi-experimental study was conducted using a pretest-posttest design. The targeted population of the study was all (197 individuals) of the employees of the customer service management department of Isfahan Telecommunications Company in Isfahan, Iran, in the year 2018. To determine the appropriate sample size, Gpower software was used. Considering the effect size, significance level of 0.05, test power of 0.8, and 3 investigation groups, a total of 60 individuals were considered for the sample size (Hosseini, Tanha, Abbasnia, & Azizpour, 2023). The screening tests were then conducted on the participants.

According to the test results and a psychiatrist's discretion, 60 personnel with distress manifestations were randomly selected and divided into 3 groups of 20 people, 2 experimental groups and 1 control group. The inclusion criteria were having a diploma or higher education, having job conditions with a high volume of work and job stress due to answering and serving millions of subscribers, having symptoms of distress based on the screening and diagnosis of the psychiatrist, and having a history of no other previous psychotherapy training program. The exclusion criteria were lack of willingness to participate in the treatment course and absence from more than 3 sessions.

Instruments and variables

Kessler Psychological Distress Scale: The Kessler Psychological Distress Scale (K6) provides a simple measurement of psychological distress during 1 month (Kessler et al., 2003). The questionnaire is self-report type and has 6 questions about the emotional state of the individual. The scoring method of the questionnaire is a 5-point Likert scale ranging from 0 to 4. Therefore, the minimum and maximum score that can be obtained by the participant is 0 and 24, respectively. In Iran, research has been conducted on the validity and reliability of this questionnaire. In a recent study, Cronbach's alpha of 0.92 was obtained for the K6. For the cut point of this questionnaire, which was equal to 10, the sensitivity was equal to 0.73 and the specificity was equal to 0.78. Therefore, the results showed that this questionnaire had acceptable validity and reliability in Iran (Hajebi et al., 2018).

Stressful Life Event (SLE) Questionnaire: The Stressful Life Event (SLE) Questionnaire includes 46 questions, and the subject has to mark the events he/she has personally experienced in the last 6 months. Next, he/she determines the intensity of discomfort and the level of mental pressure at the time of that event. Thus the score is determined in two steps: first, the absence or presence of stressful events, second, the severity of the stressful events. The severity of the stressful event is determined on a 6-point Likert scale ranging from 1 to 5. In case of no stressful events, a score of 0 is given (Roohafza, Ramezani, Sadeghi, Shahnam, Zolfagari, & Sarafzadegan, 2011). In Iran, researches have been conducted on the validity and reliability of this questionnaire. In a profound study, Cronbach's alpha was found to be 0.92, which showed the reasonable validity and reliability of this questionnaire in Iran (Roohafza et al., 2011).

Occupational Stress Questionnaire: The Health and Safety Executive (HSE) Institute of England presented this questionnaire as a tool for determining health in the workplace and measuring the job stress of workers and employees. This questionnaire has 35 questions in 7 areas. The questions are scored on a 5-point Likert scale (Cousins*, Colin, Simon, Kelly, Peter, & Ron, 2004; Sun, Song, Liu, Mao, Sun, & Cao, 2021). In Iran, a study approved the validity and reliability of this questionnaire with Cronbach's alpha coefficient of 0.78 (Azad Marzabadi & Gholami Fesharaki, 2011).

Screening for Somatoform Symptoms-7 questionnaire: The Screening for Somatoform Symptoms-7 (SOMS-7) questionnaire consists of 53 questions that assess a wide range of somatic symptoms and evaluate the patient's manifestations in 7 days (Ebrahimi, Mirshahzadeh, Afshar-Zanjani, Adibi, Hajihashemi, & Nasiri-Dehsorkhi, 2018). The scoring is based on signs/symptoms severity using a Likert scale ranging between 0 and 4. Rief and Hiller (2003) reported a reliability of 0.85 and a validity of 0.75 for this questionnaire. In Iran, evaluating the Persian version of the SOMS-7 demonstrated a reliability score of 0.7 with a Cronbach's alpha coefficient of 0.92 (Ebrahimi et al., 2018).

Procedure and intervention: The first experimental group (N = 20) underwent MBSR therapy in 8 weekly 90-minute sessions, which lasted 8 weeks. The details of each instruction session have been discussed elsewhere based on Kabat-Zinn's guidelines for MBSR (Demarzo et al., 2017; Kabat-Zinn, 1990; Kabat-Zinn, 2013; Kabat-Zinn & Hanh, 2009).

The second experimental group (N = 20) underwent the BEHI program in 8 weekly 90-minute sessions, again lasting 8 weeks. The details of each instruction session have been discussed elsewhere based on BEHI guidelines (Farzanegan, Derakshan, Hashemi-Jazi, Hemmati, & Azizi, 2023; Goli, 2022; Tavakolizadeh, Goli, Ebrahimi, Hajivosough, & Mohseni, 2023). It is noteworthy that at the end of each session, printed flash cards were presented to the participants that included key concepts of the session and the practical home exercises. The control group (N = 20) received no training in this period. The pretest and posttest were, respectively, carried out at the beginning and the end of the study in these three groups.

Analysis: The data obtained from the questionnaires were analyzed using descriptive and inferential statistics in SPSS software (version 22; IBM Corp., Armonk, NY, USA). Analysis of covariance (ANCOVA) and pairwise comparison of the methods were used to analyze the outcome data.

Ethics: All candidates voluntarily participated in this study, and the perspective of the study was fully explained to them. Written informed consents were obtained from the participants and the study protocol was held in total accordance with the Declaration of Helsinki.

Results

This study was conducted on 60 candidates with distress symptoms in Isfahan, Iran. The individuals were randomly assigned to 3 groups (MBSR, BEHI, and control), each consisting of 20 participants. Descriptive findings revealed that the mean \pm SD age of the MBSR, BEHI, and control groups was 37.3 ± 8.4 , 38.8 ± 6.9 , and 37.6 ± 5.8 years, respectively. In the MBSR group, 18 people (90%) were women, and 2 (10%) were men. In the BEHI group, 14 people (70%) were women, and 6 (30%) were men. In the control group, 15 people (75%) were women, and 5 (25%) were men.

Variables	Groups	Pretest (Mean ± SD)	Posttest (Mean ± SD)	
	BEHI	353.10 ± 128.38	290.80 ± 97.79	
Occupational stress	MBSR	368.9510 ± 138.06	299.00 ± 126.37	
	Control	356.7510 ± 119.04	355.25 ± 124.56	
	BEHI	38.5010 ± 24.25	26.40 ± 23.02	
Psychosomatic symptoms	MBSR	34.8510 ± 24.17	25.55 ± 16.75	
	Control	37.1010 ± 27.08	39.25 ± 25.86	

 Table 1. Mean and standard deviation of pretest and posttest scores of occupational stress and psychosomatic symptoms in the study groups

SD: Standard deviation; BEHI: Bioenergy economy-based health improvement; MBSR: Mindfulness-based stress reduction

Regarding marital status, 50%, 65%, and 55% of the individuals were married in the MBSR, BEHI, and control groups, respectively. According to the education level, 15%, 35%, and 35% of the participants in the MBSR, BEHI, and control groups, respectively, had bachelor's degrees. The mean ± SD occupational stress and psychosomatic symptoms scores of the experimental and control groups in the pretest were approximately equal. However, in the posttest, the mean ± SD scores of the intervention groups were notably lower than those of the control group. Table 1 demonstrates the aforementioned data for these 3 groups.

The distribution of the statistical population was approved to be normal by the Kolmogorov-Smirnov test (P-value not significant). For the inferential analysis, ANCOVA and pair comparison of the methods were applied.

Table 2 demonstrates the findings of ANCOVA. Accordingly, after controlling the pretest scores and considering the values of the calculated F and its significance levels, there was no significant difference between the 3 groups regarding the mean scores of occupational stress and psychosomatic symptoms in the posttest stage.

To assess the effectiveness of each method in comparison with the other, a pairwise comparison of the groups with the Bonferroni test was used. According to table 3, there was no significant difference between the experimental groups. However, there was a significant difference between the control and the experimental groups regarding the posttest occupational stress and psychosomatic symptoms scores (P < 0.05). Therefore, the BEHI and MBSR methods are effective on the mentioned manifestations of distressed employees. However, this study found no statistically significant difference between the methods.

Discussion

In the present study, MBSR and BEHI methods were compared in terms of their effectiveness on occupational stress and psychosomatic symptoms of distressed employees.

Table 2. Multivariate analysis of covariance of the posttest results for the research variables in the Bioenergy economy-based health improvement (BEHI), Mindfulness-based stress reduction (MBSR), and control groups

Variables	Total squares	df	Mean squares	F	Significance level	η2
Occupational stress	52193.23	2	26096.61	2.78	0.07	0.09
Psychosomatic symptoms	2281.72	2	1140.86	3.63	0.03	0.11
Psychosomatic symptoms	2281.72	2	1140.86	3.63	0.03	0.1

df: Degree of freedom

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	Occupational s	Psychosomatic symptoms		
Groups	Mean Differences	Significance Level	Mean Differences	P-value
BEHI vs. MBSR	290.80-299.00 = 8.20	0.99	26.40-25.55 = 0.85	0.84
BEHI vs. Control	290.80-355.25 = 64.45	0.04	26.40-39.25 = 12.85	0.01
MBSR vs. Control	299.00-355.25 = 56.25	0.05	25.55-39.25 = 13.70	0.03

Table 3. Pair comparison of the posttest results of the mean scores of the research variables in the BEHI, MBSR, and control groups (Bonferroni test)

The results demonstrated that these manifestations significantly decreased in the posttest assessment of the individuals. Therefore, it was revealed that both MBSR and BEHI methods had alleviating impacts on the study variables and made a significant difference compared to the control group.

MBSR has been markedly known as an effective method for mental health promotion and stress management (Fjorback, Arendt, Ornbol, Fink, & Walach, 2011). It has been demonstrated that MBSR can decrease occupational stress in medical staff and employees and improve individuals' self-compassion, personal accomplishment, and overall psychological functioning (Green & Kinchen, 2021; Janssen, Heerkens, Kuijer, Van Der Heijden, & Engels, 2018).

Additionally, the investigation of MBSR on psychosomatic symptoms of individuals with bodily distress syndrome revealed marked improvements and enhanced QOL, which lasted in long-term follow-ups (Fjorback, 2012). A study on psychiatric nurses demonstrated the alleviating effects of MBSR on their notable work stress (Yang, Tang, & Zhou, 2018). Its results showed a significant reduction in job stress, anxiety, depression, and overall negative emotions. Another study examined the effect of short-course MBSR practice on healthy adult employees and found a significant reduction in their self-reported perceived stress (Klatt, Buckworth, & Malarkey, 2009). Moreover, a study was performed on nonmedical staff's occupational burnout and revealed a profound decrease in post-intervention stress scores with a sustained impact in a 3-month follow-up. This study suggested that MBSR also has uplifting effects on employees other than healthcare professionals (Haghighinejad et al., 2022). These data are in accordance with the present study results regarding the reported reduction in posttest occupational stress levels.

A meta-analysis on mindfulness approaches investigated MBSR's effect on the bodily distress of adults (Maas Genannt, Hulsmann, & Martin, 2023). The results demonstrated that mindfulness therapies were more effective than the control population in reducing psychosomatic symptoms. Another meta-analysis reported the mild to moderate positive effects of mindfulness techniques on the improvement of symptom severity and QOL of patients with somatization disorders (Lakhan & Schofield, 2013). It demonstrated that MBSR and Mindfulness-based Cognitive Therapy (MBCT) had a much greater impact than other mindfulness approaches. These data are in line with the present study findings regarding the evidence of alleviating psychosomatic symptoms recorded in the posttest evaluation.

The BEHI program is a holistic model that focuses on body awareness, coherent narrative, synergic relationship, and non-dual intentionality. Previously, this method has been applied for a variety of diseases and has demonstrated improving results on psychosomatic symptoms of the disorders, stress, anxiety, depression, and overall QOL of individuals, which has been discussed elsewhere (Bavari et al., 2022; Derakhshan, Manshaei, Afshar, & Goli, 2016; Farzanegan et al., 2023; Ghassemi, Vahedi, Tabatabaei,

& Alivandi-Vaf, 2023; Goli, 2023a; Goli & Boroumand, 2016; Goli et al., 2019; Tavakolizadeh et al., 2023). Accordingly, this method could diminish distress and facilitate better mind-body integration toward the healing process. Similarly, the presented works supported positive improvement impacts on the occupational stress and psychosomatic symptoms of the individuals (Derakhshan et al., 2016; Goli et al., 2019; Keyvanipour, Goli, Bigdeli, Boroumand, Rafienia, & Sabahi, 2019).

Due to the structural similarities of the MBSR and BEHI programs, these methods were selected for the present research. Both models have elaborated cognitive, behavioral, body-centered, and mindful subsets. The resulting mindful awareness from these models dissociates the individual from self-disruptive thoughts. This detachment causes less fusion and hyper-identification with the stressors related to occupational stress and psychosomatic symptoms. On the other hand, the spread of mindfulness through the body decreases the intensity of malicious thoughts and increases the bodily vibration, which draws the individual's attention to the present moment instead of olden or unborn days. MBSR has breath-focusing, body-scanning, and gentle yoga movements for its body-centered practices. On the other hand, BEHI adds specific tensile, vibrational, and percussional practices. This triad of BEHI movements upregulates the distribution of bioenergy. The redistribution of body energy alleviates the bodily tensions and magnifies the homogeneity. Notably, BEHI practices demonstrate a broad and detailed focus on the bodily properties of awareness (Goli, 2016; Goli & Boroumand, 2016; Kabat-Zinn, 1990).

Despite the astounding effects of MBSR on the occupational stress and psychosomatic symptoms of distressed employees in this study, it seems that BEHI might offer a more holistic approach. The BEHI program adds healing to the table by implementing the wholeness mindset. This mindset allows the individual to obtain personal and therapeutic achievement as a whole unit instead of interfering with the obstacles of each part. This means that instead of expecting each dissatisfaction and failure to be corrected, one should concentrate on the correctness of the totality and whole. This openness to totality and not every element is a paradigm shift for the individual's energy economy. By implementing this upward-down (top-down) integrity approach, everyday tensions and conflicts could be facilitated as the individual is not attached to the dualities of the distress, but is in harmony with the wholeness of the overall improvement. So long as an individual becomes whole, senses the totality first, and lets the healing process happen, it might be unnecessary to correct each part in order to experience wholeness. Wholeness embraces the entire entity rather than the isolation of each part. These BEHI program concepts of wholeness, well-being promotion, boundlessness, and intentionality are less touched in the MBSR program (Goli, 2022; Goli, 2023b).

The present study faced limitations regarding its population, which might demand a larger size to generalize the results to the community. Moreover, this study found no apparent difference between the application of MBSR and BEHI programs for distressed employees. A more extensive study is suggested to investigate and discriminate these models from each other. Another limitation to acknowledge is that this study lacked a follow-up for the participants. As it has been discussed, psychological dilemmas demand long-term care and intention. A more cohesive investigation with 3-, 6-, and 12-month follow-ups is suggested for obtaining the long-term effects of MBSR and BEHI on distressed individuals. One of the strengths of this study was its additional screening for excluding participants with previous or concurrent psychotherapy. As pre-existing or simultaneous psychological training

could interfere with the effectiveness of the interventions, this extra screening is suggested to be replicated in forthcoming studies.

All in all, it seems that body awareness and mindful mind-body integration could help individuals with occupational stress and its psychosomatic manifestations. The mentioned models could hypothetically reduce stressors' impacts and induce behavioral and lifestyle changes to achieve a noble sublimation of living.

Conclusion

The BEHI and MBSR methods are effective on the occupational stress and psychosomatic symptoms of distressed employees. This study found no statistically significant difference between the methods. Since the BEHI program demonstrated similar outcomes to the MBSR method, it could be applied in worksites for distressed employees. Further investigations are needed to discriminate between these therapy approaches.

Conflict of Interests

Authors have no conflict of interests.

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