



Effects of mindfulness based therapy on compassion and response to stress in special education teachers

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Abstract

Encouragement is an important concept of Adlerian psychology and refers to the expression of confirmation through language or other symbolic illustration to instill courage in a person within the context of addressing a challenging situation or recognizing a potential. Receiving encouragement would enhance social connectedness, academic performance, motivation and self-efficacy in students. The present study was conducted with the aim of determining the effect of mindfulness-based therapy on compassion and response to stress of special needs school teachers. The study was a pretest-posttest control group quasi-experimental design. Statistical population included all special needs school teachers of Bandar Abbas (Iran) in 2022. Participants were 30 special needs school teachers were selected by accessible sampling and randomly assigned to in experimental and control groups (15 people in each group). Participants responded to Stress Response Inventory (SRI) and Compassion of Others' Lives (COOL) Scale. The experimental group received eight two-hour sessions of mindfulness training and the control group did not receive any training. Data were analyzed by univariate and multivariate analysis of covariance. The results indicated that intervention decreased the response to stress and increased compassion in teachers ($p < .01$). Therefore, providing this training is considered useful strategy for improving the health outcomes in teachers.

Keywords

mindfulness, special needs schools, teachers, response to stress, compassion

Introduction

The education of children with special needs is one of the most sensitive and important issues in the education of any country, which requires the expertise, tact and mastery of its trainers and teachers, because children with special needs constitute a huge part of the student population of every country (Ghergut, 2011). The teachers of special needs children, which are one of the main pillars of the education and training of special needs children, if they are better prepared in the course of education, they will have the necessary effectiveness in the education and training of children with special needs and due to the special educational conditions in which they perform more difficult tasks and are therefore more vulnerable (Recchia & Puig, 2011).

Children with special needs do not have ability for concentration and attention and they get tired of work very quickly or go to another task. The task of the teacher is to focus the child's attention on the subject. It is taught or the teaching of the subjects that they are interested in is strengthened. It should not slow down the progress of these people and gradually leave them alone. As a result, patience is one of the basic and necessary conditions for teachers of children with special needs (Benn et al., 2012).

By accepting this job, teachers of special needs children actually put their mental health at risk more than other employees and even other teachers (Kovess-Masféty et al., 2007). These teachers have a greater impact on their students and suffer more pressure and stress during educational activities. High job stress leads to low mental health because they are constantly dealing with students with special needs and their families are usually stressful for them and handling them requires a high tolerance capacity (Khari Arani et al., 2013).

Research has shown that more than one third of teachers experience very high job stress (Sadeghi & Sa'adatpourvahid, 2016). Some teachers show more psychopathological symptoms than other teachers, which can vary from mild burnout and irritability to emotional burnout, depression and severe psychosomatic symptoms (Halian, 2019).

Usually, the slow progress of students with special needs is an important source of tension in their teachers. In this case, they must truly understand that the lack of progress does not necessarily indicate deficiencies and lack of work on the part of the teacher (Halian, 2019).

Eastern traditions have considered compassion as the basis of freeing the human mind from the power of destructive emotions such as fear, anger, jealousy and revenge (Neff et al., 2008). According to Dalai Lama (Kittel, 2011), compassion is a mental attitude that is non-violent, non-harmful and non-aggressive, which is associated with the desire to relieve others of their pain and suffering and with a sense of obligation, responsibility and respect. Based on an evolutionary perspective, Goetz et al. (2010) defined compassion as an emotion that emerges when observing another's pain and suffering, followed by a desire to help. Salehi (2016) indicated that perceived social responsibility has a direct effect on compassion at work and organizational commitment.

Compassion is caring for others and has a reciprocal effect. If we are kind and compassionate towards others, they will sympathize and be kind to us in times of need. Compassion is the basis for being able to feel what they feel and creating a stable basis for collective action and increases the feeling of trust (Singer & Klimecki, 2014).

Although compassion has great educational, clinical and organizational importance, but sometimes evidence shows that excessive compassion in any field leads to self-stress and high stress because these people always seek to help others and reduce the pain and suffering of those who need help. The essential principle is that teacher's show empathy with students and their problems, but do not allow these problems to destroy them. Too much involvement with personal and family problems of students increases the vulnerability to the analysis of mental powers (Kokkinos & Davazoglou, 2009).

One of the factors affecting compassion and responding to the stress of special needs teachers is mindfulness. In fact, mindfulness is a non-judgmental and balanced feeling of awareness that helps to clearly see the acceptance of emotions and physical phenomena as they happen (Creswell, 2017). Kabat-Zinn (2003) stated that mindfulness can be thought of as moment-to-moment, non-judgmental awareness, educated by paying attention in a particular way, that is, in the present moment, and as non-reactively, as non-judgmentally, and as openheartedly as possible.

Mindfulness is an important underlying factor for achieving innate freedom (Miller et al., 1995). Because it is an effective and strong way to turn off and stop the pressures of the world or one's own mental pressures. One of the characteristics of a successful person is to acquire the necessary skills to manage oneself (behavior, emotion, mind, etc.). Mindfulness is an effective way to achieve the maximum ability of the mind and manage it. Mindfulness or the presence of

mind means awareness of thoughts, behavior, emotions and motivations so that we can better manage and regulate them (Kabat-Zinn, 2013).

Various studies have shown the effectiveness of mindfulness training, separately or together with other treatment methods, on reducing pain, anxiety (Liu et al., 2019), improving physical, mental, emotional and spiritual well-being (Dye et al., 2020), ethical decision making (Ruedy & Schweitzer, 2010), anxiety and depression (Hofmann et al., 2010) and self-esteem (Pepping et al., 2013).

In a study Gregory (2015), the effectiveness of a yoga and mindfulness program to decrease compassion fatigue and to increase compassion satisfaction in currently employed social workers by using a quasi-experimental design. Results suggested that participation in a brief yoga and mindfulness program may halt the decrease of compassion satisfaction. Likewise, Strauss et al. (2021) evaluated whether mindfulness-based cognitive therapy for life (MBCT-L), could reduce stress in healthcare workers and target a range of secondary outcomes. According to results, mindfulness and self-compassion mediated effects on stress and wellbeing. Conclusions: MBCT-L could be an effective and acceptable part of a wider healthcare workers well-being and mental health strategy.

In the field of health psychology, it is believed that non-biological (personality-psychological) factors play a role in the formation, aggravation and success in the treatment of many psycho-physical diseases. One of the psychological factors affecting pain is mindfulness. Studies have shown the role of mindfulness in the field of health (Keng et al., 2011). Therefore, according to the above information and the effect of mental states on stress and compassion and vice versa, and considering that nowadays physical and mental problems have increased even more and this problem has prompted researchers to search for better solutions. On the one hand, despite the researches that have been presented that show the effectiveness of mindfulness training, in our country, the effectiveness of the treatment based on mindfulness on the compassion and response to the stress of teachers of special needs schools has not been investigated until now, the aim of the present research is to investigate the effectiveness of treatment based on mindfulness on compassion and response to stress in special needs school teachers in Bandar Abbas, Iran. The main hypothesis of this research is that the treatment based on mindfulness has an effect on the compassion and response to the stress in special needs school teachers.

Material and Methods

In this research, a field experimental research method of pre-test and post-test design with a control group was used. The statistical population of this research includes all teachers of special needs schools in Bandar Abbas (Iran) in 2020. Participants were 30 teachers whom selected by the accessible sampling method. The experimental and control groups were randomly matched, and before applying experimental interventions to the experimental and control groups, a pre-test was conducted in and a post-test was also conducted at the end of the intervention. The difference between the pre-test and the post-test of each group was examined for statistical significance. In this way, the effectiveness of the treatment based on mindfulness was applied as an independent variable to determine its effect on compassion and response to stress in teachers of special needs schools. Data was collected via following scales:

Compassion of Others' Lives (COOL) Scale: This scale was developed by Chang et al. (2021) and it contains 26 items, 13 of which are subscale of empathy and 13 of which are subscale of relief of pain and suffering, which are set on a 7-point Likert scale. The range of scores in the COOL scale, which is obtained from the sum of the above two subscales, is 26 to 182, and a higher score reflects more compassion. The reliability of the Iranian version of this questionnaire and its content validity were investigated and confirmed in the study of Hajiloo and Ranjbar Nosahri (2016). The results of exploratory factor analysis showed that this scale includes two factors of empathy and relief of pain and suffering, which explains about 50% of the variance of the scale, and based on the results of confirmatory factor analysis, these factors fit well with the data. The convergent and discriminant validity of the scale was calculated through correlation with the emotional empathy scale and the abusive personality subscale, and the results were significant. The internal consistency of the scale based on Cronbach's alpha was 0.87 and the correlation of the items with the total score ranged from 0.41 to 0.60. According to the results of this study, it can be concluded that the scale of compassion for others has relatively favorable validity and reliability in the Iranian sample. In the present research, the reliability coefficients of compassion questionnaire were calculated using Cronbach's alpha method, which is equal to 0.87 for the whole scale.

Stress Response Inventory (SRI): The stress response inventory was developed by Koh et al. (2000) in order to investigate the emotional, physical, cognitive and behavioral aspects of stress response. This test is a self-report tool, and the subject must indicate on a 5-point Likert scale

(from not at all = 0 to completely = 4) to what extent they experience each of the mentioned symptoms. SRI has 39 items and factor analysis yielded 7 subscales tension, aggression, somatization, anger, depression, fatigue and frustration. Reliability was computed by administering the SRI to 62 healthy subjects during a 2-week interval. Test-retest reliability for 7 subscales and the total score was significantly high, ranging between 0.69-.96. Internal consistency was computed, and Cronbach's alpha for 7 subscales ranged between .76-.91 and .97 for the total score. Concurrent validity was computed by correlating the 7 subscales and the total score with the total score of the global assessment of recent stress (GARS) scale, the perceived stress questionnaire (PSQ), and the symptom checklist-90-revised (SCL-90-R). The correlations were all at significant levels. Discriminant validity was computed by comparing the total score and the 7 subscale scores of the patient and control groups. Significant differences were found for 6 subscales and the total score, with the exception being the aggression subscale. The depressive disorder group was highest in total scores of SRI among 4 patient groups, and showed significant higher scores in total scores of SRI than each of anxiety disorder and psychosomatic disorder groups. In this research, Cronbach's alpha method was used to determine the reliability of the SRI, which is equal to 0.94 for the whole scale.

After collecting data, in order to analyze them, descriptive statistics (mean and standard deviation) and inferential statistics (covariance analysis test) were used. Data were analyzed by SPSS version 22 software. After establishing the statistical assumptions (Kolmogorov-Smirnov test, homogeneity of covariance matrix using M-box test and homogeneity of variances using Levine's test), the use of univariate and multivariate analysis of covariance test was unimpeded in order to adjust the pre-test effect. The experimental group underwent eight 2-hour sessions of mindfulness training, but the control group did not receive any intervention during this period. Before starting the study, the participants completed the informed consent form and the purpose of the study was explained to them.

Results

The descriptive findings of this research including statistical indicators such as mean and standard deviation for the main variables in this research are presented in Table 1.

Table 1

The mean and standard deviation of the compassion and response to stress in the experimental and control groups in the pre-test and post-test

| | Phase | Group | Mean | SD |
|--------------------|----------|--------------|--------|-------|
| Compassion | Pretest | Experimental | 153.33 | 15.90 |
| | | Control | 154.33 | 16.30 |
| | Posttest | Experimental | 164.47 | 6.76 |
| | | Control | 155.45 | 14.27 |
| Response to stress | Pretest | Experimental | 74.53 | 19.76 |
| | | Control | 71.53 | 17.65 |
| | Posttest | Experimental | 50.60 | 13.62 |
| | | Control | 71 | 13.57 |

Before examining the hypothesis, Levin’s test was used to comply with the assumption of equality of variance of the equality of variance was approved. Also, the results of the Kolmogov-Smirnov test for the assumption of the normality and it was approved as well. The results approved test of homogeneity of the regression slopes of the research variables in two groups. The result of multivariate covariance analysis (MANCOVA) was provided in table 2.

Table 2

The results of multivariate covariance analysis (MANCOVA) on the mean post-test scores of compassion and stress responses of teachers

| | Value | DF1 | DF2 | F | p | Eta | Power |
|--------------------|-------|-----|-----|-------|-------|------|-------|
| Pillai's trace | 0.646 | 2 | 25 | 22.79 | 0.001 | 0.64 | 1 |
| Wilks' lambda | 0.354 | 2 | 25 | 22.79 | 0.001 | 0.64 | 1 |
| Hotelling's trace | 1.82 | 2 | 25 | 22.79 | 0.001 | 0.64 | 1 |
| Roy's largest root | 1.82 | 2 | 25 | 22.79 | 0.001 | 0.64 | 1 |

According to table 2, the significant levels of all tests indicate that there is a significant difference between the teachers of the experimental and control groups at least in terms of one of the dependent variables (compassion and response to stress). In order to find out in terms of

which variable there is a difference between the two groups, two one-way analysis of covariance was performed following the MANCOVA and the results are presented in Table 3.

Table 3

The results of one-way analysis of covariance on the scores of compassion and stress responses

| | | SS | DF | MS | F | p | Eta | Power |
|--------------------|---------|---------|----|---------|-------|-------|------|-------|
| Compassion | Pretest | 1408.60 | 1 | 1408.60 | 18.82 | 0.001 | 0.42 | 0.987 |
| | Group | 1633.55 | 1 | 1633.55 | 21.83 | 0.001 | 0.45 | 0.994 |
| | Error | 1945.15 | 26 | 74.81 | | | | |
| Response to stress | Pretest | 2016.58 | 1 | 2016.58 | 16.63 | 0.001 | 0.39 | 0.975 |
| | Group | 1 | | 3524.44 | 27.07 | 0.001 | 0.52 | 0.999 |
| | Error | 3152.12 | 26 | 121.23 | | | | |

As shown in Table 3, there is a significant difference between the teachers of the experimental group and the control group in terms of compassion ($F=21.83$, $p<0.0001$) and response to stress ($F=27.07$, $P<0.0001$). These findings show that the treatment based on mindfulness increases compassion and decreases response to stress.

Discussion

The aim of the present study was to investigate the effect of mindfulness training on compassion and response to stress in special needs teachers. The findings of this research revealed that mindfulness training led to an increase in compassion. The results of the present study are consistent with the earlier researches (Mak et al., 2018; Roeser & Pinela, 2014; Tirch, 2010).

The effect of mindfulness therapy on increasing teachers' compassion can be explained by the fact that compassion increases the feeling of trust, and true compassion requires empathy for the pain and suffering of others, followed by an action to relieve it. Paying close attention to our thoughts and feelings through mindfulness, in turn, increases understanding and compassion. All of us are responsible for the people who have suffered. We must be aware of the conditions that

cause hardship and suffering in the society. Therefore, the use of mindfulness will increase equal educational opportunities and create a justice-oriented society, and stimulate social changes. As a result, due to its usefulness and cost-free in order to promote the health of teachers and due to its other benefits, it is recommended to conduct mindfulness to increase compassion for teachers.

Also, the findings of this research showed that the treatment based on mindfulness has led to a decrease in the response to stress in teachers. The results of the current study are consistent with the former studies (Bai et al., 2020; Felton et al., 2015; Zeller & Levin, 2013).

The effect of the mindfulness on reducing the response to stress can be explained that according to different everyday preoccupations, continuous rumination and stressful conditions that exist around the majority of people, the importance of managing the mind becomes more apparent and the earlier the stress factors in the teaching job are identified. The findings of our study and the aforementioned studies confirm the fact that mindfulness is an effective solution for achieving the maximum ability of the mind and managing it, which is taught through breathing and thinking. Also, the mindfulness leads to the adjustment of emotions without judgment and increases the awareness of mental and physical emotions and can play an important role in adjusting stress scores and psychological well-being. Mindfulness increases a person's attention and awareness towards physical and mental feelings and leads to a feeling of trust in life, deep compassion, a feeling of deep love for others and true acceptance of life's events. It makes a person know his abilities, cope with the tension of life and be useful and productive in terms of work. Therefore, mindfulness training can play an important role in reducing anxiety, tension and also increasing compassion despite such positive techniques. Also, in justifying the above findings, it can be noted that increasing attention and awareness of thoughts, emotions and practical tendencies is one of the positive aspects of mindfulness and causes adaptive behavior in any given field and even improves individual ability to act. It is hoped that by using this treatment method, we will take a step towards the health of the teachers as a result of the health of the families and the future generation. This research, like any other research, has limitations. We investigated this study in a sample of teachers in Bandar Abbas, as well as conducting this research at the elementary level that limits the generalization of the results.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material; further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University of Bandar Abbas. The patients/participants provided their written informed consent to participate in this study.

Author contributions

SZ, NT contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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