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The effectiveness of mindfulness-based cognitive therapy on cognitive regulation of emotion and perceived stress in women with dental anxiety

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Abstract

Aim: The aim of this study was to determine the effectiveness of mindfulness-based cognitive therapy on cognitive regulation of emotion and perceived stress in women with dental anxiety. **Method:** The research method is semi-experimental pre-test and post-test with a control group. The study population included all women with dental anxiety in Tehran who were selected by available sampling method and randomly assigned to two groups (15 people) experimental group and (15 people) control group. The experimental group underwent 8 sessions of 90 minutes of cognitive therapy based on the mindfulness of Segal et al. (2004). The research instruments were Stouthard, Mellenbergh, & Hoogstraten (1993) Dental Anxiety Questionnaire, Garnefski, Kraaij, & Spinhoven (2001) Cognitive Emotion Regulation, and Cohen et al. (1983) Perceived Stress. The results were analyzed using repeated measures analysis of variance and SPSS.22 software.

Results: It showed that mindfulness-based cognitive therapy treatment had a significant effect on increasing cognitive regulation of emotion ($F=51.53$, $P<0.001$) and decreasing perceived stress ($F=15.25$, $P<0.001$) in women with dental anxiety. **Conclusion:** It can be concluded that mindfulness-based cognitive therapy was effective on cognitive regulation of emotion and perceived stress in women with dental anxiety.

Keywords: *Mindfulness, Cognitive emotion regulation, Perceived stress, Dental anxiety, Women.*

Introduction

One of the aspects of health is dealing with oral and dental health, but attending the dental office and being on the unit for examination is often not so easy and relaxing (Chandrasakhar et al., 2017). Sometimes, this anxiety is combined with fear and panic that with the occurrence of confrontational behaviors in patients, it deprives the dentist of providing any kind of service. The severity of anxiety in patients may expand to debilitating dimensions and the feeling of impending death in the patient, him and his family, may discourage him from any diagnostic or dental treatment (Tels et al., 2015). Dental anxiety is defined as a psychological reaction of fear towards dental interventions because a person believes that these interventions are harmful and dangerous (Jankui et al., 2014). Fear of dental treatments is common, with approximately 6–15% of the general population suffering from dental anxiety (Grisolia et al., 2021). Dental anxiety ranks fifth among the most common anxiety-provoking situations (Keoningham et al., 2021).

Mindfulness training can play an important role in mental health in the form of group therapy, it can increase the characteristics of mental health, which includes comprehensive well-being, and its necessity can be felt to increase the improvement of life. Mindfulness, in simple words, means being aware of thoughts, behavior, emotions and feelings and is considered a special form of attention (Goldberg et al., 2019). According to Kabat-Zinn (1983), mindfulness means paying attention to the present in a specific, purposeful and non-judgmental way. Currently, mindfulness is rapidly becoming an effective and efficient approach to dealing with ever-increasing problems. If we look at mindfulness from the perspective of scientific research, we can say that currently, many clinical psychologists use mindfulness as a very effective medicinal tool to reduce stress and anxiety (Yeuxil and Yilmaz, 2020). The use of mindfulness and conducting research in this field has increased in recent years. Mindfulness-based therapies have been reported to be highly effective for the treatment of some clinical disorders and physical diseases due to the fact that they address both physical and mental dimensions. In the last two decades, a large number of interventions and treatments based on mindfulness have emerged (Brotto et al., 2019). Cognitive therapy based on mindfulness requires special behavioral, cognitive and metacognitive strategies to focus the attention process. Therefore, according to the stated content, the aim of the present study was to determine the effectiveness of cognitive therapy based on mindfulness on the cognitive regulation of emotion and perceived stress in women with dental anxiety. The current research sought to answer the following questions:

- 1- Was cognitive therapy based on mindfulness effective on the cognitive regulation of emotion and perceived stress in women with dental anxiety in the post-examination stage?
- 2- Was cognitive therapy based on mindfulness on the cognitive regulation of emotion and perceived stress in women with dental anxiety in the follow-up phase?

Method

The research method is semi-experimental pre-test and post-test with a control group. The study population included all women with dental anxiety in Tehran who were selected by available sampling method and randomly assigned to two groups (15 people) experimental group and (15 people) control group. The experimental group underwent 8 sessions of 90 minutes of cognitive therapy based on the mindfulness of Segal et al. (2004).

The research instruments were Stouthard, Mellenbergh, & Hoogstraten (1993) Dental Anxiety Questionnaire, Garnefski, Kraaij, & Spinhoven (2001) Cognitive Emotion Regulation, and Cohen et al. (1983) Perceived Stress. The results were analyzed using repeated measures analysis of variance and SPSS.22 software.

Results

To investigate the significance of the difference between the score of cognitive regulation of emotion and perceived stress in the two experimental groups and the control group, analysis of variance with repeated measurements was used.

The results of the analysis of variance of the repeated measurement of several variables among the studied groups in the variables of cognitive regulation of emotion and perceived stress showed that the effect between the subject (group) is significant. This effect means that at least one of the groups differs from each other in at least one of the cognitive regulation variables of emotion and perceived stress. The within-subject effect (time) was also significant for the research variables, which means that there was a change in at least one of the average variables during the time from pre-test to follow-up.

that the analysis of variance is significant for the within-group factor (time) and it is significant between groups. These results mean that considering the group effect, the time effect alone is significant. Also, the interaction between group and time is significant, and Bonferroni's post hoc test was used for pairwise comparison of groups.

The variable score of cognitive emotion regulation in the experimental group and in the post-test phase is higher than the control group. In other words, the experimental group had high effectiveness on increasing the cognitive regulation of excitement. Also, these results show that the cognitive regulation of emotion in the follow-up phase has increased significantly in the experimental group compared to the control group. The variable score of perceived stress in the test group and in the post-test phase is lower than the control group. In other words, the cognitive therapy group based on mindfulness has been highly effective in reducing perceived stress. These results show that the perceived stress in the follow-up phase was not significantly different in the experimental group compared to the control group.

Conclusion

The present study has limitations that should be taken into account in drawing conclusions and generalizing the results. One of the limitations of the present study was that the research population was limited to those suffering from dental anxiety in Tehran, which makes it difficult to generalize its results to the whole society. Also, since chronic diseases are usually multifaceted and affect not only the patient, but also the patient's family, it is suggested to use intervention for psychological treatments in the families of these patients. In order to improve dental anxiety and cognitive regulation of emotion and perceived stress of women suffering from dental anxiety, attention should be paid to psychological treatments in the dental department of hospitals. In general, cognitive therapy based on mindfulness is a promising intervention to improve the cognitive regulation of emotion and perceived stress in women with dental anxiety. The findings of the present study can help psychologists and counselors to improve the cognitive regulation of emotion and perceived stress in women with dental anxiety.

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