

EFFECT OF THE EARLY MENTAL HEALTH INTERVENTION ON TRAUMATIC STRESS, ANXIETY AND DEPRESSIVE SYMPTOMS OF INDIVIDUALS WITH EARTHQUAKE TRAUMA: RANDOMIZED-CONTROLLED DESIGN

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BACKGROUND AND AIM: Numerous studies have demonstrated that traumatic events can affect mental health. Therefore, in recent years, there has been a significant effort to develop interventions that can alleviate the effects of psychological trauma and prevent the development of post-traumatic stress disorder (PTSD). However, in mass traumas, it is expected that some of those exposed to trauma will develop mental disorders. In the early stages of such traumas, the general trend and scientific guidelines recommend practices based on Psychological First Aid and Psychoeducation to prevent the development of PTSD and other mental disorders, rather than psychotherapeutic interventions directed at the traumatic event. Acute stress responses resulting from trauma are multidimensional, and early interventions aim to increase resilience, prevent chronic emotional difficulties, and minimize the long-term deterioration in quality of life caused by trauma exposure. Nevertheless, there is a clear need for more effective, protective, preventive interventions that can be applied to larger populations. Additionally, therapeutic interventions in the acute post-traumatic period still raise questions for some clinicians.

A systematic review of 61 studies involving early psychological interventions has shown that Trauma-Focused Cognitive Behavioral Therapy and Eye Movement Desensitization and Reprocessing (EMDR) are effective in reducing acute traumatic stress responses. Thirty-four studies examined individuals showing symptoms of traumatic stress within three months of a traumatic event and demonstrated that these two interventions reduced the severity of PTSD symptoms. Fourteen studies highlighted the importance of early intervention in individuals diagnosed with PTSD or acute stress disorder. Both interventions were effective in the acute phase within 2-4 weeks after the traumatic event, with EMDR being found to have the highest effect size compared to other interventions in the studies conducted.

Recent research on group EMDR protocols for treating traumatic symptoms brought on by natural and human-made disasters, with fewer resources (human and others), has shown that these are beneficial across a wide range of traumatic stress-related symptoms. In particular, the Group EMDR Flash Technique is applied to facilitate the processing of intense traumatic memories that individuals might avoid. This method

allows for the reduction of trauma-related symptoms by focusing on positive memories instead of highly distressing ones. This makes the EMDR Flash Technique application safer to use in acute periods when individuals do not engage with the trauma. Therefore, the effectiveness of the Group EMDR Flash Technique application in early post-traumatic intervention is important for developing a safe and effective intervention for a large number of individuals affected by trauma simultaneously.

In light of all this literature information, the current study aims to examine the therapeutic, protective, and preventive effects of therapeutic intervention in the acute period in individuals affected by earthquakes

METHODS: The current study has a randomized controlled design. Announcements were made to reach individuals affected by the 2023 Urfa-Kahramanmaraş-Hatay earthquakes, and 465 volunteers applied for the study. Thirty-three individuals were excluded due to not meeting the inclusion criteria, thirteen due to lack of voluntariness, and nine for various other reasons. Four hundred and ten participants were divided into Group EMDR Flash Technique and Control groups, and the sociodemographic data form, PTSD Checklist for DSM-5 (PCL-5), and Depression Anxiety Stress-21 scale (DASS-21) were administered. The intervention group was invited to participate in the Group EMDR Flash Technique intervention online, but 98 participants were unable to participate for various reasons (change of location, lack of technical facilities, physical inappropriateness, etc.), and 107 participants completed the EMDR Flash Technique sessions administered over three consecutive days. The intervention was conducted by experienced psychotherapists with at least ten years of experience in the field. The intervention was completed within 30 days after the earthquakes. After a three-month follow-up period, the PCL-5 and DASS-21 scales were readministered to the participants. Approval was obtained from the Üsküdar University Non-Interventional Research Ethics Committee (61351342/2023-55).

RESULTS: The statistical analyses of the study were conducted with 52 participants from the intervention group and 37 participants from the waiting group who completed the study. No statistically significant differences were found between the intervention and waiting groups in terms of age ($p=0.414$), gender ($p=0.941$), relationship status ($p=0.099$), education level ($p=0.406$), income status ($p=0.286$), employment status ($p=0.958$), physical illness ($p=0.807$), mental illness before the earthquake ($p=0.389$), suicide attempt before the earthquake ($p=0.165$), smoking ($p=0.198$), alcohol use ($p=0.480$), physical injury during the earthquake ($p=0.165$), and loss of first-degree relatives in the earthquake ($p=0.943$). Significant differences were found in the changes in scores between the EMDR Flash Technique group and the waiting group for DASS-21 Depression ($\eta^2=0.138$), Anxiety ($\eta^2=0.111$), Stress ($\eta^2=0.170$), Total ($\eta^2=0.192$), PTSD Checklist Re-experiencing ($\eta^2=0.256$), Avoidance ($\eta^2=0.164$), Negative changes ($\eta^2=0.239$), Hyperarousal ($\eta^2=0.300$), Total ($\eta^2=0.309$). When the cutoff score for the PTSD Checklist was set at >47 , the likelihood of a PTSD diagnosis in the waiting group was 97.3% at 1 month after the first earthquake and 91.9% at 3 months later, while in the Flash Technique group, it was 92.3% at 1 month after the first earthquake and 32.7% at 3 months later.

CONCLUSIONS: The most significant finding of the current study is that the application of the EMDR Flash Technique in the early stages, even while aftershocks are ongoing, can provide protective and preventive effects for Trauma and Associated Disorders, as well as for Depressive Disorders and Anxiety Disorders. The trend in the literature was that most interventions in the early period after a traumatic event were not effective. Although there are studies suggesting the opposite, they were proposed more weakly. Contrary to the literature, the current study shows that early interventions prevent the development of future

mental symptoms related to trauma. The results of this study provide strong evidence for the early detection and evaluation of individuals exposed to traumatic events and the provision of early psychological intervention when necessary; however, further research is needed to develop more intervention options.

Keywords: EMDR, acute stress, natural disaster, PTSD, early intervention

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EVALUATION OF PLASMA ATHEROGENIC INDEX, CASTELLI RISK INDEX AND ATHEROGENIC COEFFICIENT IN PATIENTS WITH DEPRESSIVE DISORDER

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BACKGROUND AND AIM: There is a robust comorbidity between depressive disorder and cardiovascular disorder. Management of abnormal metabolic parameters is important during the follow-up and treatment of a depressive episode. The atherogenic index of plasma (AIP), Castelli risk index (CII) and atherogenic coefficient (AC) are important atherogenic indices. The aim of this study was to evaluate these atherogenic index parameters in patients with depressive disorder.

METHODS: We took an approval from the Local Ethics Committee placed at the Adiyaman (Adiyaman, Turkey) (Approved No: 2023/4-3). The study included 50 depressive disorder patients and 50 controls. included in the study. All participants were analyzed for metabolic profiles including plasma levels of fasting glucose and lipid profiles including total cholesterol, triglycerides, high-density lipoprotein-cholesterol (HDL-C) and low-density lipoprotein-cholesterol (LDL-C). Body mass index (BMI) was calculated. According to the American Heart Association National Heart, Lung, and Blood Institute, atherogenic indices, including the Atherogenic Coefficient (AC), Castelli risk index (CRI)-I, CRI-II, Plasma Atherogenic Index (PAI) were calculated. Chi-square analysis (Pearson Chi-square) was used to compare categorical variables between groups. Compliance of continuous variables with normal distribution was evaluated by Kolmogorov-Smirnov test. Student t test was used for the comparison of paired groups.

RESULTS: BMI ($p<0.001$), glucose ($p=0.004$), TG ($p<0.001$), total cholesterol ($p<0.001$), LDL ($p=0.011$), AC (LDL+TG)/HDL ($p=0.001$), CRI-I (TC/HDL) ($p=0.017$), CRI-II (LDL/HDL) ($p=0.047$) and AIP ($\log_{10}$ TG/HDL) ($p=0.001$) values were significantly higher than the control group. There was no significant difference between the groups in terms of HDL value ($p=0.938$).

CONCLUSIONS: The high atherogenic indices of depressive disorder patients indicate that cardiovascular follow-up is important in this disease. We believe that inexpensive and feasible AIP, CRI-I, CRI-II and AC should be evaluated in large sample groups in this disease. Thus, we do not think that depression will reduce the mortality and morbidity of patients.

Keywords: plasma atherogenic index, Castelli risk index, atherogenic coefficient, depressive disorder