The Effects of Single Session EMDR Flash Technique Group Application on Traumatic Symptoms

Alişan Burak Yaşar, MD,[1] İbrahim Gündoğmuş, MD,[2] Anıl Gündüz, MD,[3] and Emre Konuk, MA[4]

[1] *Department of Psychology, İstanbul Gelişim University, İstanbul, Turkey*
[2] *Department of Psychiatry, Kırıkkale Yüksek İhtisas Hospital, Kırıkkale, Turkey*
[3] *Department of Psychology, İstanbul Kent University, İstanbul, Turkey*
[4] *Davranış Bilimleri Institution, İstanbul, Turkey*

ABSTRACT

Introduction: Flash Technique method is an EMDR (Eye Movement Desensatization and Reprocessing) protocol specifically developed. In this protocol, there is little contact with the traumatic memories and focus is substantially on positive memories. For this reason, it might be convenient for group applications. In this study, we aimed at measuring the effects of EMDR Flash Technique group application on traumatic memories.

Method: The sample of the study consists of 36 participants. On this sample, one-session of 90-120 minutes EMDR Flash Technique was applied. Participants were evaluated with Impacts of Events Scale (IES), PTSD Checklist for DSM-5 (PCL-5) and Sociodemographic Variables Form before, one week later and one month later following the EMDR Flash Technique group application.

Results: Comparison of Subjective Unit of Disturbance (SUD) and IES scores obtained from measurements conducted before (SUD=6.08±1.69, IES-R=24.52±11.57), one week after (SUD=3.75±1.90, IES-R=14.13±11.78) and one month after (SUD=2.83±2.00, IES-R=9.86±11.84) EMDR Flash Technique application revealed statistically significant difference (SUD: $p<0.001$, IES-R: $p<0.001$). In addition, a statistically significant difference was found in the comparison of pre-session (24.38±17.78) and one month after session (11.44±11.06) PCL-5 scores ($p<0.001$).

Conclusion: In this study, the effects of EMDR Flash Technique application, which we thought to be easy to apply and less risky, were analyzed in a group consisting of 36 participants, and there were significant improvements in one-month follow-up scores in all of the three trauma measures. Examination of EMDR Flash Technique group application in other groups and with controlled long-term research may be a considerable option for future research.

INTRODUCTION

Direct exposure, indirect exposure or witnessing to traumatic events such as physical or sexual assault, injury, combat-related trauma, natural disaster or death may lead to Post-Traumatic Stress Disorder (PTSD) (1). Exposure to at least one traumatic experience such as being taken hostage or being kidnapped, experiencing or witnessing sexual or physical assault, torture, a terrorist attack, a severe car accident, a natural disaster, war, or the unexpected death of a loved one have been suffered by 60.7% for men and 51.2% for women (2). Psychiatric diagnoses including mood disorders, substance abuse, or PTSD may arise in 10 to 40% of the individuals who have had traumatic experiences (3-5). A PTSD diagnosis consists of re-experiencing, avoidance of trauma-related situations, hyperarousal and emotional numbing, together with cognitive symptoms including impoverished autobiographical memory for positive events (6), attention and working memory deficits (7), enhanced arousal induced by trauma-related stimuli (8), as well as decreased social functioning (9).

Francine Shapiro developed Eye Movement Desensitization and Reprocessing (EMDR) for single trauma Post-Traumatic Stress Disorder (PTSD) treatment (10, 11), today extensively used as an efficient treatment for trauma and associated conditions (10). To date, there are quite a few evidence-based psychological and pharmaco-

Address for Correspondence: ✉ Dr. İbrahim Gündoğmuş, Department of Psychiatry, Kırıkkale Yüksek İhtisas Hospital, Bağlarbaşı, Ahmet Ay Caddesi, 71300 Merkez/Kırıkkale, Turkey dribrahim06@gmail.com

logical treatments for PTSD such as Cognitive-Behavioral Psychotherapy and Prolonged Exposure Therapy, Stress Inoculation Therapy, and EMDR. Most of these therapies are conducted weekly and require homework that the patient should perform (12).

EMDR model proposes that dysfunctional and/or incomplete encoding or processing of the traumatic event may lead to psychopathology due to a lack of adaptive integration to the memory pool. The model posits that it enables the processing and encoding of those negative events and linked cognitions through unique procedural stages to assess and recode the memory with bilateral eye movements, auditory or tactile stimuli called bilateral stimulation (BLS). EMDR consists of eight stages that evaluate and involve sensational, emotional, cognitive, and perceptual symptoms of traumatic events (10, 11).

The Flash Technique adds additional strategy to EMDR which is blinking the eyes without thinking about the target memory between the dual stimulation sets. This technique brings less exposure to the traumatic event by blocking free association of traumatic events using non-stop relaxing imagination. Another advantage of Flash Technique is that it takes very little time to work with and complete a memory. On average one can work with five memories each session. Because it is an EMDR technique, Flash works in alignment with EMDR Theory. Results are achieved as in normal EMDR procedure and techniques by using BLS, subjective units of distress (SUD) is reduced, the image gets blurred and becomes smaller, there is less movement and colors disappear and tend to become black and white. SUD provides basic information about how disturbing a particular moment or memory is throughout the session to assist both the therapist and the client in monitoring the treatment outputs. The scoring is between 0 to 10, with 0 defined as being neutral or no distress while 10 is the highest level of distress (13, 14). One of the main differences in the Flash Technique is that it can be practiced in a group format (15, 16).

To date, there have been limited studies that investigate the Flash Technique in traumatic life events. This study aims to show the effectiveness of this technique in a group setting with individuals suffering from past traumatic life events.

METHOD

SAMPLE

The sample of the study comprised 27 female volunteers and nine male volunteers who work at Marmara University Pendik Education and Research Hospital. An announcement had been made in the hospital for those who had experienced a traumatic event and had complaints about these events; 48 participants who met the inclusion criteria of being above 18 years old and having had a traumatic experience and who had been interviewed were included in the study. Having major psychopathology, using psychotropic medication, and not volunteering to participate in the study were the exclusion criteria. A total of 12 participants were excluded from the study due to not being a volunteer (n = 2), not participating regularly in follow-ups (n = 4), and not completing the measurements required for the study (n = 6). As a result, the study was completed with 36 participants who were treated in three different groups by two psychiatrists. Approval was obtained from Marmara University Ethics Committee (IRB:09.2018-445) and all stages were conducted in accordance with the Declaration of Helsinki. All participants signed informed consent forms.

RESEARCH DESIGN

EMDR Flash Technique Protocol Applied

In each group, after an acquaintance period of 15-20 minutes, a 90 minute Flash Technique application was conducted, as described below:

1. Introduction of the application and teaching of the components:
   a. Participants are requested to blink their eyes three times when the word "flash" is said.
   b. When instructed to begin, taps on the right and left knees will be made sequentially.
   c. During the taps, they will only think about the positive memory, as safe and positive as possible.
2. Finding the positive memory (checking the memories everyone has chosen and making sure it is good; for those who cannot recall one, a calming picture is shown on the screen).

   The participants were asked to find the positive memory in the following way: "Now portray a memory or an imaginary positive scene that feels good and safe for you. This positive memory could be a person you love, a pet, a place, or even a musical sound. During our implementation, we will ask you to return here frequently and be in touch with the positive memory. You can also move on to another positive memory when you have a problem staying with this one. Everyone should express this positive memory out loud to help the other participants who are unable to find a positive memory."
3. Everyone is asked to choose the memory they want to work with. Participants are asked how much discomfort, in other words, SUD, they feel when looking

at that memory/scene at the moment between 0-10. Then, they are asked to note it down.

4. They are requested to make taps imagining the positive memory, told "flash" in each of the six sets and expected to blink eyes three times. When paused after every six sets, they are asked to return to the traumatic memory. After that, they are asked if there is a change in the memory itself. Then, they are asked how much they are disturbed between 0 to 10 when they look at the memory. After these steps, they are told to return to the positive memory and bidirectional stimulation is started. This process is continued until the SUD reaches zero.

   The procedure was continued with the same memory until the SUD score was 0. Those with SUD scores of 0 for the memory were asked to move on to another memory about the event until the session ends. During the session, participants who did have decreases in SUD scores in four consecutive sets of the procedure were asked to find another positive memory.
5. At the end of the session, everyone was asked about SUD points again. Each time scores were requested they were asked to note the scores on a paper. As a final step, everyone is asked to read their SUD scores before and after the session.

   After giving information about the study to all volunteers included in the study, they were requested to fill out the Sociodemographic Data Form, Impact of Events Scale Revised (IES-R) and the Post-Traumatic Stress Disorder Checklist from DSM-5. Then, the Flash Technique Protocol described above was applied. Participants were asked to apply the same scales again at the end of the first week and first month after the protocol. The scales obtained were analyzed after they were scored in accordance with their instructions.

INSTRUMENTS USED FOR DATA COLLECTION PURPOSES

Sociodemographic Data Form: This is a semi-structured data form created by researchers in accordance with the literature, in which demographic data such as age, gender, and traumas of the participants are requested.

Impact of Events Scale Revised (IES-R): This was used to determine the effect of the traumatic event on the participants. The scale consists of 22 items that are scored between 0 and 3 (17, 18). The scale, a self-report type, has three sub-scales which are re-experiencing, avoidance and overstimulation. Turkish validity study of the scale was done by Çorapçıoğlu et al. (19)

The Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5): This was used to rate the PTSD severity of the participants. Developed by Blevins et al. (20), the scale consists of 20 items scored between 0-4. The scale, a self-report type, has four sub-scales:re-experiencing, avoidance, negative changes, and hyper-arousal. Its Turkish validity and reliability study were made by Boysan et al. (21).

STATISTICAL ANALYSIS

All statistical analyses were conducted using the SPSS 20 package program. Sociodemographic data and data of the traumas of the participants were presented as mean, standard deviation and percentage. In the comparison of SUD and IES-R scores of the participants' pre-Flash Technique, first week and first month results, ANOVA test for repeated measures was used, and for comparison of PCL-5 scores the Paired Test was conducted. Results are demonstrated in the Tables and Figures. In all analyses, $p \leq 0.05$ was considered statistically significant.

RESULTS

The demonstration of the sociodemographic and trauma data of the participants is presented in Table 1. The average age of the participants included in the study was 26.55 ± 3.51. The time elapsed after the target traumas of the participants was 4.77 ± 7.06 years. The sources of the target traumas of the volunteers were 86.1% (31) individual and 13.9% (5) collective.

Comparison of participants' SUD and IES-R scores before and after the session is presented in Table 2, Figure 1 and Figure 2. A statistical difference was found in the comparison of volunteers' pre-Flash Technique (6.08±1.69), first week (3.75±1.90) and first month (2.83±2.00) SUD

Table 1. *Demonstration of sociodemographic and trauma data of the participants*

Variable	
Age (year/ Mean±SD)	26.55±3.51
Gender (n (%))	
Female	27 (%75.0)
Male	9 (%25.0)
Time After Trauma (Mean±SD)	4.77±7.06
Trauma Type (n (%))	
Individual	31 (86.1)
Collective	5 (13.9)
Source of Trauma (n (%))	
Human	29 (80.6)
Nature	7 (19.4)

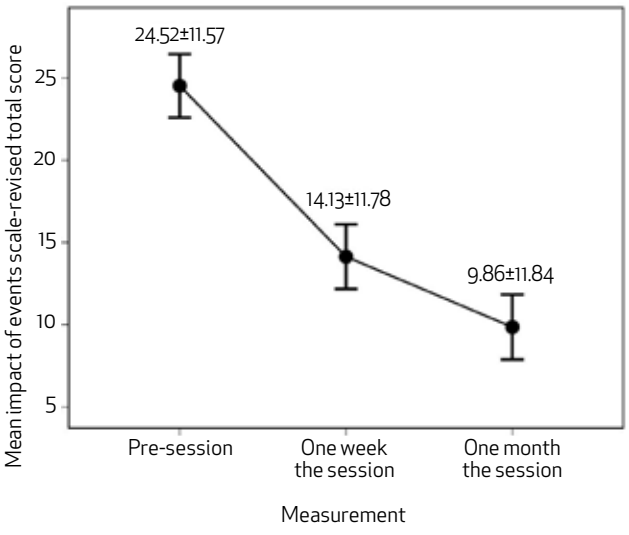
Table 2. *Presentation of the comparison of the participants' SUD, Post-Traumatic Stress Disorder Checklist for DSM-5 and the Impact of Events Scale-Revised scores before the session, one week after the session and one month after the session*

Pre-session	One week the session	One month the session	F value	P value after	after
SUD Score	6.08±1.69	3.75±1.90	2.83±2.00	73.325	[a]**<0.001****
Impact of Events Scale-Revised					
Intrusion	8.11±4.79	4.55±4.41	3.13±4.24	31.707	[a]**<0.001****
Avoidance	11.08±4.69	6.36±5.23	4.25±4.80	38.369	[a]**<0.001****
Hyperarousal	14.13±11.78	5.33±4.57	2.47±3.73	20.834	[a]**<0.001****
Total	24.52±11.57	14.13±11.78	9.86±11.84	48.533	[a]**<0.001****
Post-Traumatic Stress Disorder Checklist for DSM-5					
Intrusion	6.72±4.10	3.22±2.96	5.496		[b]**<0.001****
Avoidance	2.72±2.43	1.02±1.38	4.14		[b]**<0.001****
Cognition and mood	8.72±7.16	4.61±4.91	4.179		[b]**<0.001****
Arousal and reactivity	6.22±5.63	2.58±3.07	3.760		[b]**<0.001****
Total	24.38±17.78	11.44±11.06	4.891		[b]**<0.001****

SUD: Subjective Unit of Disturbance, [a] ANOVA for Repeted Measure, [b] Paired Sample test

(p<0.001). After the application, 13.9% (n=5) of the participants had a SUD score of 0, 22.2% (n=8) of them 1, and 25.0% (n=9) of them 2. The SUD score of 94.4% (n=34) of the participants decreased after the application compared to before. A statistical difference was found between the measurements of the Impact of Events Scale Total (24.52±11.57 & 14.13±11.78 & 9.86±11.84) and Intrusion (8.11±4.79 & 4.55±4.41 & 3.13±4.24), Avoidance (11.08±4.69 & 6.36±5.23 & 4.25±4.80) and Hyperarousal (14.13±11.78 & 5.33±4.57 & 2.47±3.73) (p values 0.001, ≤0.001, ≤0.001, ≤0.001 and ≤0.001, respectively). In addition, there was a statistically significant difference in the comparison of PTSD checklist total (24.38±17.78 & 11.44±11.06) and Intrusion (6.72±4.10 & 3.22±2.96), Avoidance (2.72±2.43 & 1.02±1.38), Cognition and mood (8.72±7.16 & 4.61±4.91) and Arousal and reactivity (6.22±5.63 & 2.58±3.07) subscale scores before and one month after the session (p values 0.001, ≤0.001, ≤0.001, ≤0.001, and ≤0.001, respectively).

Figure 1. *Graphical representation of the evaluation of the Impact of Events Scale-Revised total score according to the measurements.*



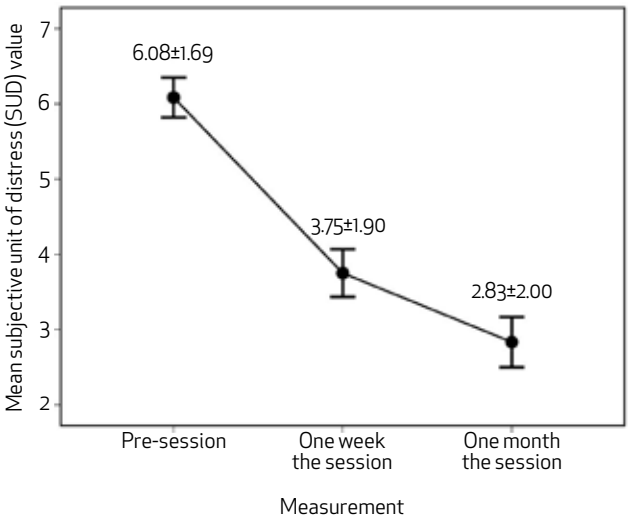
DISCUSSION

This study was conducted to observe the effectiveness of EMDR Flash Technique developed to be used as part of EMDR Therapy which is an effective treatment method for traumatic life events.

EMDR Flash Technique protocol is easier to implement when compared to EMDR therapy. In this protocol, participants are neither asked directly about details oftraumatic events nor are they requested to explain or think in detail. The initial part of the technique mostly requires creating a relaxed and enjoyable feeling for the client with bilateral stimuli as used in EMDR Therapy (15, 16).

Through the Flash Technique clients have only a brief period of contact with the traumatic memory many times

Figure 2. *Graphical representation of the evaluation of the SUD score according to the measurements*



during the entire therapy period. However, applications such as EMDR and more likely Prolonged Exposure include a description of the traumatic event in a long and detailed way or have a long exposure period of the trauma (10,22). Less contact with the traumatic event and relatively easy application may be the advantages of the Flash Technique for the group therapy setting. Additionally, brief contact with the traumatic memory and lack of need for the client to explain the traumatic event makes this therapy easier to conduct in groups. Considering that, further research shows the effectiveness of the technique in a group setting which may be helpful to individuals in the natural disaster areas where many are traumatized. This technique is suitable for groups in both inpatient or outpatient settings.

Eighty-six point one percent (31) of the participants in our study experienced individual traumas, whereas 13.9% (5) of them experienced a collective trauma. Additionally, 80.6% of the traumas were produced by humans, while 19.4% were natural disasters in our study population. One of the prominent factors for being a victim of a trauma produced by a human was being female; our study was performed with a group at risk for traumatic events produced by humans (23). This is the first study that conducts EMDR Flash Technique in a group protocol and showed a significant effect in both human produced and natural disaster traumatic events. In our study, a single session of EMDR Flash Technique revealed a significant change in total PTSD checklist scores and, re-experiencing, avoidance, negative cognitions and overstimulation subscales in a group setting through a one-month period ($p = 0.01$).

The mean scores of the Impact of Events Scale were 24.32 before the treatment, 14.13 after the first week of the treatment and were 9.86 one month after the treatment. Some of the studies showed that improvement in mental health continues after EMDR Therapy, which is consistent with our results (24). Significant changes in the PCL-5 scores might be important in larger groups of victims of natural disasters who meet the diagnostic criteria for PTSD. Additionally, the SUD scores were significantly improved after the one session of the Flash Technique. Continuous significant improvement in the study was shown both after the first week of the treatment and after the first month in all assessment tools. This study aims to demonstrate the single session efficacy of the EMDR Flash Technique in a group setting with individuals suffering traumatic life events. In this respect, the EMDR Flash Technique has a significant advantage where long-term therapy is not available.

Research regarding trauma therapy mostly consisted of individual psychotherapies such as EMDR, CBT, and PE which requires between 7 to12 sessions and have the same efficacies when compared (25). There are various studies regarding group EMDR and group CBT. The Mexican Association for Mental Health Support in Crisis created a group EMDR protocol in response to the intense need for mental health care after Hurricane Pauline. This protocol is also known as the Butterfly Hug protocol, EMDR Group protocol and Child EMDR Group protocol, which can be conducted in groups (26); six to 15 sessions are frequently performed in similar Group CBT settings in studies (27). In the literature, there was one study with a single session EMDR group protocol which was conducted with 124 children who experienced the catastrophic floods in Santa Fe, Argentina in 2003 (28). The need for group therapies increases especially after major collective traumas and natural disasters. Major shared needs arise, especially after disasters. Although the mental health support needs for large numbers of individuals increases after disasters, mental health professionals may be unable to provide sufficient response to this need (29). Another reason for insufficiency in meeting mental health needs after disasters is where community resources are scarce (30). In those situations, there is a need for widespread, effective, safe and easy to access applications. In this study, we showed the effect of EMDR Flash Technique which is relatively easy to implement and adapted from EMDR protocol.

Since the EMDR Flash Technique does not require re-examination of the traumatic event and provides very short-term exposure to the traumatic material, it has relatively less risk for dissociation and provides a brief protocol that may make it an important opportunity for group applications.

This technique keeps the client in a positive memory state and decreases the emotional burden of the traumatic event. It is apparent that the emotional burden of the traumatic event decreases as the EMDR sets progress since the client stays in the positive memory state for a longer period and has a short-term exposure to the traumatic material. Apart from PTSD, Flash Technique may be an option for conditions such as dissociative syndromes and depression, especially when it is difficult to recall positive memories.

There are some limitations in our study. First of all, the most important limitation of our study is the absence of a control group. Second, the number of participants was limited. Third, the participants did not have a PTSD

diagnosis. Last, participants were followed for only one month and no further data were gathered afterward.

CONCLUSION

We investigated the effect of EMDR Flash Technique in group settings, which is brief, relatively easy to implement and relatively safe for dissociative situations. Significant improvement was shown in all three trauma measurements at the end of the first month. Future research of EMDR Flash group practice in other psychopathology diagnoses with long-term randomized controlled settings may show efficacy and encourage further research. To sum up, EMDR Flash Technique is a brief, efficient and safe method that can be implemented in group settings, yet needs further investigation.

Conflict of Interest

The authors have no conflict of interest to declare.

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