

Summary

Review of Studies on The Effectiveness of EMDR Applications in Post-Trauma Stress Disorder

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Eye Movement Desensitization and Reprocessing Systematic desensitization and processing (EMDR) with eye movements is a relatively new therapy technique that has become popular in the treatment of post-traumatic stress disorder (PTSD) in recent years. The technique, developed by Shapiro in 1987, is used to process memories of the traumatic event. Trauma victim follows the therapist's fingers simultaneously while talking about the traumatic event (Shapiro, 1989, 2002). Shapiro has developed EMDR in line with his personal experience and realized that it can be effective in trauma treatment (Rubin, 2003). After his discovery, many researchers have started to investigate the effectiveness of EMDR on other disorders, and it has been determined that many disorders such as depression, anxiety disorders and even personality disorders can be effective in the treatment process (De Jongh, Amann, Hoffman, Farrel & Lee, 2019; Karadağ, 2020). However, it is claimed that induction with eye movements presented in EMDR can be very effective especially in the processing of traumatic memories in PTSD (Shapiro, 2002). It is claimed that trauma symptoms such as intense anxiety emotional distress, event related returns, restlessness and hypersensitivity to stimulants can recover rapidly (e.g., Van den Hout et al., 2010).

Despite the claims that EMDR can eliminate PTSD symptoms by processing traumatic memories, when EMDR was first proposed, some researchers approached the technique with suspicion and They suggested that current therapy techniques such as cognitive behavioral therapy (CBT) may be more effective in resolving trauma memories. Therefore they suggested current therapy techniques instead of EMDR. (Deville & Spence, 1999; Heber Kellner & Yehuda 2002). Some researchers have also stated that EMDR may not differ from other techniques (Davidson & Parker, 2002). In this respect, there is an existing duality regarding the use of EMDR in general. Although there are researchers who argue that EMDR may be more effective than other techniques for

the treatment of PTSD (e.g., Lee, Gavriel, Drummond, Richards & Greenwald, 2002; Stanbury, Drummond, Laugharne, Kullack & Lee, 2020), there are also researchers who argue that the technique is not as effective as claimed. This creates question marks about the use of the technique. Is EMDR really an effective intervention method in PTSD treatment as Shapiro suggests? Answering this question seems to be important in terms of PTSD treatment process and eliminating doubts about EMDR. In this context, it may be useful to review the studies on the use of EMDR in the treatment of PTSD (Shapiro, 1989).

The first research on the use and impact level of EMDR in PTSD, was done by Shapiro (1989), who developed the technique. Studies by Shapiro have shown that the technique can quickly improve PTSD symptoms. These initial studies have led many researchers to work on EMDR. Lee et al. (2002) reported that traumatic symptoms of trauma victims improved within three sessions on average, and other problems related to trauma could be eliminated to a great extent. Similar to this finding, later studies reported that EMDR can improve not only trauma symptoms but also depressive symptoms and anxiety symptoms. (Edmond & Rubin, 2003; Sinici, Maden, Ak, Bozkurt & Özşahin, 2012). In addition, researchers such as Bal (2020) and Hurley (2018) reported that the improvement achieved in people treated with EMDR was maintained after the treatment.

Contrary to studies showing that EMDR can be an effective and usable intervention, some research findings also reported minor effect levels for EMDR. Devilly and Spence (1999) divided the participants diagnosed with PTSD into two categories and applied CBT in half and EMDR in the other half. At the end of the study, it was reported that the effect level of EMDR was very low (%25-30) and the participants showed the trauma symptoms again during the follow-up period. This study is one of the studies reporting the smallest effect size regarding the effectiveness of EMDR. Haber et al (2002)

reported similar results. In some of these studies, the traumatic event causing PTSD was chronic, and there were disorders accompanying PTSD. Van der Kolk et al. (2007) stated that this type of situations may decrease the effectiveness of EMDR. He reported that EMDR is effective but the some conditions are effective on the result.

When evaluated on the basis of the EMDR study findings, the results regarding the effect level of EMDR are complicated. Some studies reported higher, almost 100% recovery rates (De Jongh et al., 2019; Karadag, Gokcen ve Sarp, 2019; Konuk et al., 2006), while others reported lower effect levels (e.g., Jensen, 1994; Rothbaum et al., 2005). However, a common result of the studies is that EMDR can benefit to a certain extent in improving PTSD symptoms. However, one of the important issues about EMDR is how EMDR works, namely how it treats trauma symptoms (Davidson & Parker, 2002). The mechanism of EMDR has not been fully explained. Even Shapiro (1989), has not been able to propose a definitive mechanism for how treatment takes place. Although some experts make some suggestions on this subject each of these is an assumption. Researchers explained the effect of EMDR on the basis of neurobiological processes, which include many brain structures and processes (e.g., Andrade, Kavanagh & Baddeley, 1997). Despite some differences, the common emphasis is that eye movements trigger some neurobiological processes, so trauma symptoms can be processed. Although there are some exceptions (e.g., Cahill, Carrigan & Freuh, 1999), researchers found that the use of eye movements is very effective (Karadağ, 2020).

Although EMDR's mechanism of action has not yet been clarified, it is stated that the use of eye movements provides benefits. This make think whether the use of eye movements would be effective in every traumatic event. People can face many traumatic events such as war, cancer, traffic accident, natural disaster, harassment throughout their lives (Ilic, 2004; Rothbaum, 1997). Not everyone is affected by these events in the same way, some people can overcome these situations quickly, while others can develop PTSD (Binay, 2016; Trentini et al., 2018). It is important how effective EMDR can be in the treatment of PTSD developing due to these different events. When the studies in the literature are examined, EMDR has been seen to be similarly effective in the treatment of PTSD developing as a result of different events. (Abbasnejad, Mahani & Zamyad, 2007; Acarturk et al, 2015; Mukba, Tanrıverdi ve Tarhan, 2020). Such study findings may seem to support the applicability of EMDR.

In the literature, treatment drop-out rates regarding the effectiveness and usability of EMDR in PTSD treatment are also mentioned. Studies mostly reported low

dropout rates (%10-15) for EMDR. (e.g., Hurley, 2018; Schottenbauer, Glass, Arnkoff, Tendick & Gray, 2008). On the other hand, there are studies that report higher drop-out rates. Nijdam, Gersons, Reitsma, de Jongh and Olf (2012) reported that drop-out rates could reach %30. In addition, the researchers compared EMDR dropout rates with other treatment techniques in PTSD treatment. Although some studies report that there is no significant difference between techniques (e.g., Berg et al., 2015), in many studies on the subject, dropout rates are lower in EMDR compared to other techniques (Reinders, 2019). This situation raised the question of why there are lower dropout rates in EMDR despite the some exceptional. Researchers attributed this to the fact that EMDR is more easily tolerated by trauma victims due to some of its features. In this subject, researchers have emphasized that the technique does not include intense exposure sessions, it affects quickly, does not include homework and is cost-effective (De Bont et al., 2019; Schnyder, 2005; Karadag et al., 2019).

Discussion

The findings of the study on the use of EMDR in PTSD treatment, although there are certain exceptions (e.g., Jensen, 1994) generally seem to support the availability and effectiveness of EMDR applications in PTSD treatment (Acarturk et al., 2016; Moghadam, Kazemi, Taklavi & Naeim, 2020). According to the findings of this study, while speaking on the traumatic event, following the therapist's finger movements simultaneously helps to process the traumatic memories (Shapiro, 1989) This can improve symptoms associated with PTSD. In addition, with the improvement of trauma symptoms, it has been reported that depressive symptoms may reduce and anxiety level may decrease, and functionality can become more functional (e.g., Sinici, et al., 2012) In this respect, based on the findings of the study regarding the use of EMDR in PTSD treatment, it can be stated that the use of EMDR in PTSD provided "two birds with one stone".

An important issue regarding the use of EMDR is how the technique can achieve a certain degree of improvement. How can EMDR improve symptoms of trauma? This question has not been answered clearly yet (Tokgöz, 2018; Van den Hout et al., 2010). Considering the study findings in the field, it can be thought that eye movements provide improvement, but the basic logic of eye movements is not understood. Many researchers approached this question on the basis of neurobiological explanations (e.g., Bergman, 2008; Stickhold, 2002) This makes sense on the basis of the idea that PTSD is actually a problem with the processing of traumatic me-

mories in memory, as Shapiro also shows. It may be useful to identify the factors that affect the change process in terms of neurobiology. It is thought that the increase in brain imaging and research in recent years may be useful in this regard.

Within the scope of this study, the findings of the study regarding the effect level of EMDR in different traumatic disorders related to the effectiveness of EMDR are also included. When evaluated on the basis of studies on victims of natural disasters, warfare and sexual harassment, it has been seen that EMDR can be similarly effective in different traumatic events (Abbasnejad et al., 2007; Wagenmans, Van Minnen, Sleijpen ve De Jongh, 2018). In this respect, it can be thought that EMDR can affect traumatic events independent of the traumatic event. However, it is not clear which traumatic events have a higher effect level. It is thought that the absence of any study on people who have experienced different traumatic events on this situation may be effective. The studies to be carried out considering the severity of the traumatic event, the duration of the event, the personality characteristics of the victim of trauma can show that EMDR can be used effectively on which type of trauma.

In addition, the drop-out rates of treatment regarding the applicability of the technique were also discussed. Despite some exception overall (e.g., Slotema, van den Berg, Driessen, Wilhelmus & Franken 2019) studies have reported low drop-out rates (Acarturk et al., 2015; Hembree et al., 2003). Therefore, the researchers made assumptions about what influenced the decision to continue treatment (e.g., Schnyder, 2005) However, as mentioned in the article, there are also findings of study where quitting rates can be high, so it seems important to investigate the reasons for quitting. On the other hand, no related study has been found in the related literature. This situation is seen as an important deficiency in the use of EMDR. Evaluating the factors predicting the drop-out of the treatment and planning the treatment process with attention to these may increase the effectiveness of EMDR. In this context, this situation should be considered.

In conclusion, many aspects related to EMDR use in PTSD treatment have been evaluated within the scope of the current review. The review is thought to be important because it brings together many different points. In addition to the current study findings, early studies are also included. Future research may explore different points related to EMDR and PTSD, which are not addressed in this article. This can be useful for better understanding of the place of EMDR applications in PTSD treatment.