





- rocessing: *Basic principles, protocols, and procedures* (2. Baskı). Guilford Press.
- Shapiro, F. (2002). *EMDR as an integrative psychotherapy approach: Experts of diverse orientations explore the paradigm prism*. American Psychological Association.
- Shapiro, F. (2007). EMDR, adaptive information processing, and case conceptualization. *Journal of EMDR Practice and Research, 1*, 68-87.
- Shapiro, F. (2014). The role of eye movement desensitization and reprocessing (EMDR) therapy in medicine: Addressing the psychological and physical symptoms stemming from adverse life experiences. *The Permanente Journal, 18*(1), 71-77.
- Shapiro, F. (2017). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols, and procedures*. Guilford Publications.
- Shapiro, F. ve Maxfield, L. (2002). Eye movement desensitization and reprocessing (EMDR): Information processing in the treatment of trauma. *JCLP/In Session: Psychotherapy in Practice, 58*(8), 933-946.
- Shapiro, F., Wesselmann, D. ve Mevissen, L. (2017). Eye movement desensitization and reprocessing therapy (EMDR). Landolt M., Cloitre M., Schnyder U. (Ed.) *Evidence-based treatments for trauma related disorders in children and adolescents* içinde. Springer, Cham.
- Stein, D. J., Ipser, J. ve McAnda, N. (2009). Pharmacotherapy of posttraumatic stress disorder: A review of meta-analyses and treatment guidelines. *Cns Spectrums, 14*(1 Suppl 1), 25-31.
- Swinden, C. (2018). The child-centered EMDR approach: A case study investigating a young girl's treatment for sexual abuse. *Journal of EMDR Practice and Research, 12*(4), 282-296.
- Teicher, M. H. ve Samson, J. A. (2013). Childhood maltreatment and psychopathology: A case for ecophenotypic variants as clinically and neurobiologically distinct subtypes. *American Journal of Psychiatry, 170*(10), 1114-1133.
- Tinker, R. ve Wilson, S. (1999). *Through the eyes of a child: EMDR with children*. WW Norton & Company.
- Tutarel-Kışlak, Ş. (2004a). Görme engelli bireyde göz hareketleriyle duyarsızlaştırma ve yeniden işleme tedavisi yönteminin dize hafifçe vurma alternatifinin uygulanması: Bir olgu sunumu. *Psikoloji Yazıları Dergisi, 7*(14), 77-90.
- Tutarel-Kışlak, Ş. (2004b). "Kaygı duyarlılığı azaltmada göz hareketleriyle duyarsızlaştırma ve yeniden işleme (EMDR) tedavisi", *Türk Psikoloji Dergisi, 19*(53), 49-65.
- UNHCR (2019). *Global report*. <https://www.unhcr.org/globalreport2019/>
- Zara, A. (2018). Kolektif travma döngüsü: Kolektif travmalarda uzlaşma, bağışlama ve onarıcı adaletin iyileştirici rolü. *Klinik Psikiyatri Dergisi, 21*(3).
- Zimić, J. I. ve Jukić, V. (2012). Familial risk factors favoring drug addiction onset. *Journal of Psychoactive Drugs, 44*(2), 173-185.

| Extended Abstract |

EMDR in children and adolescents: A review about its effectiveness in the treatment of post-traumatic stress disorderEzgi Didem Merdan-Yıldız¹ , Güler Beril Kumpasoğlu² , Selen Eltan³ , Şennur Tutarel-Kışlak⁴ **Keywords**

Eye movement desensitization and reprocessing (EMDR), trauma, child, psychotherapy

Abstract

EMDR is a treatment method that combines the techniques of many different psychotherapy approaches and provides a multifaceted intervention to the adverse impacts of traumatic experiences by matching mental information processing and physical stimulation. Although EMDR was initially developed to be administered to adults individually, it has become a wide-ranging treatment application with the use of children, adolescents, and group studies. This paper aimed to review the theoretical framework and past studies on the use of EMDR in the treatment of children with traumatic experiences and post-traumatic stress symptoms. Traumatic experiences during childhood can lead to many psychological disorders and behavioral problems in adulthood and disrupt a child's normal development process. EMDR studies with children have shown that it is an effective method in reducing PTSD symptoms and supporting psychological well-being, even in short-term applications. Therefore, it has been thought that it may be beneficial to extend the use of EMDR for the treatment of trauma in children. From the perspective of individual and social mental health, the EMDR method is considered as a valid, effective, and efficient treatment method in terms of minimizing the negative experiences of children and being a protective intervention for their future lives.

Eye Movement Desensitization and Reprocessing (EMDR) is a holistic psychotherapy method that combines various features of different therapy approaches and includes structured clinical protocols (Shapiro, 2002; Shapiro & Maxfield, 2002). In addition to these approaches, the main technique of EMDR therapy is sequential rhythmic and bidirectional stimulation used to reduce the effects of traumatic events (Novo Navarro et al., 2018).

EMDR is theoretically based on the Adaptive Information Processing Model (AIPM) (Shapiro, 2017). According to this model, mental health disorders other than those caused by organic and chemical dysfunctions, poisoning, and injuries result from the inability to process past life events functionally (Shapiro, 2014). According to the EMDR approach, eye movements and other bidirectional stimulation reduce the vitality of memories locked in certain neural networks of traumatic situations by desensitizing them; thus, by reducing the person's avoidance of

these memories, it provides access to information about the traumatic memory and enables appropriate information process (Shapiro & Maxfield, 2002).

Phases of EMDR

The EMDR protocol consists of a structured eight phases of treatment components that have been found to be effective in a variety of traumas (Rodenburg et al., 2009).

Phase 1: History and Treatment Planning: In this stage, the client's medical history, physical and emotional capacity, and other risk factors (e.g., epilepsy and neurological disorders) are taken into consideration and the person's suitability for the EMDR process is evaluated (Asarlı Tokgöz, 2018).

Phase 2: Preparation: The second stage aims to establish a therapeutic relationship, inform the client

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about one's symptoms and determine realistic expectations for treatment. Before working with traumatic memories, the client's emotion regulation and impulse control skills are strengthened by using soothing exercises such as "safe place" visualizations (Shapiro & Maxfield, 2002).

Phase 3: Assessment: At this stage, the traumatic memory and the emotions, cognitions, and physical sensations related to this memory are discussed in detail. The image that represents the traumatic memory, and the non-functional negative belief (e.g., "I am worthless") of the client that accompanies this image are determined (Tutarel-Kışlak, 2004a). Then, the client is asked to identify a positive belief about himself/herself (e.g., "I am valuable"), which might be contrary to the negative belief. After that, the client is asked to evaluate the degree to which he/she believes his/her positive beliefs on the Validity of Cognition (VOC) Scale (Shapiro, 2007). And, when the image and negative belief come together, the client assesses the feelings of discomfort by using the Subjective Unit of Distress (SUD) (Hofmann & Luber, 2009).

Phase 4: Desensitization: The therapist asks the client to focus on the traumatic image and negative cognition and realize where the discomforting feeling is in his/her body. Then the therapist starts bidirectional stimulation sets, and the client is asked to evaluate the SUD level. This process is repeated until the SUD level drops into zero (Shapiro, 2002).

Phase 5: Installation: The therapist aims to determine the positive cognition that the client wants to have regarding the traumatic memory and to strengthen this positive cognition. The validity of positive thoughts is evaluated through the VOC and sets are continued until the VOC level reaches 7 (Shapiro, 2002).

Phase 6: Body Scan: The client is asked to close his/her eyes and focus on the positive belief with the traumatic memory while scanning his/her body and being aware of the feelings and tensions in his/her body (Novo Navarro et al., 2018).

Phase 7: Closure: In this phase, the therapist evaluates whether the traumatic memory is adequately processed, and if the processing is not completed, the relaxation exercises and safe place technique specified in the second phase are used at the end of each session (Shapiro et al., 2017).

Phase 8: Reevaluation: This stage is repeated at the beginning of all sessions after the first EMDR session. It is evaluated whether the gains of the client have been preserved in the previous session, the degree of generalization of the treatment effects and

whether the traumatic memory is functionally processed (Shapiro & Maxfield, 2002).

EMDR for Children

The most frequently used methods in the treatment of PTSD in children are cognitive behavioral therapy, play therapy and EMDR (Dorsey et al., 2017). Information and recommendations for EMDR applications in children were first put forward by Greenwald (1999), Lovett (1999), Tinker and Wilson (1999).

EMDR treatment in children differs from that applied to adults in several aspects. The first and the most important difference is that the family of the child is included in the treatment. Both the story and the complaints of the child are investigated in detail, the family system of the child is evaluated, and parents could attend EMDR sessions as observers (Gomez, 2013). Another difference is that the therapeutic relationship established by including the play into the therapy (Gomez, 2013). EMDR therapist might benefit from techniques such as drawing, dough, and sandbox used in play and art therapy (Adler-Tapia & Settle, 2008; Gomez, 2013).

The main purposes of the first therapy meeting are to share the purpose and rationality of EMDR with the child, to clarify the role of the therapist, and to introduce the child to the concepts such as stop signal, metaphors, and safe place. The most frequently used metaphors in EMDR are train (or plane, car) and labyrinth (Adler-Tapia & Settle, 2008; Luber, 2010). Also, VOC and SUD are used as assessment tools during sessions. Children may be asked to show their responses by pointing on a chart, or by smaller versions of the existing tools (Ahmad & Sundelin-Wahlsten, 2008). At the end of a completed session, the SUD level is expected to be the lowest and the VOC level to be the highest. While the session is terminated, body screening and safe place exercise are also performed with the child (Swinden, 2018).

Some of the common methods in EMDR by combining play and art are:

Drawing: While learning the child's story, determining the memories to work with, and for safe place exercise, drawing is the key method (Adler-Tapia & Settle, 2008). For example, the child may be asked to draw a rainbow or railroad reminiscent of a time tunnel to tell his/her story and to depict birthdays, important events, memories that are difficult to speak about (Swinden, 2018).

The Feather Game: One of the strategies that can activate the child's emotions and "here and now" experience during EMDR is the feather game (Swinden, 2018). The therapist and the child try to catch

the feathers on an A4 paper by blowing them alternately, and then the positive emotions that the child feels are placed after the body scan (Swinden, 2018).

Cubes and Cards: Children may have difficulty identifying and expressing cognitions and emotions. Using cubes and cards on which cognitions are written and facial expressions representing emotions may also be useful for the child to identify by pointing (Gomez, 2013).

Butterfly Hug: Eye tracking (Shapiro, 2001) and auditory-tactile stimuli are used as information processing methods. The butterfly hug, performed by crossing the arms on the chest and touching the fingertips just below the shoulders, is a tactile method considered as a self-soothing experience for many trauma therapy clients (Luber, 2010).

Drumsticks: Another tactile stimulus used in the stages of desensitization and the placement of positive cognition is drumsticks. The drumsticks can be used as a stop signal and the child can drum on the pictures when placing positive cognition or safe place, and desensitization against negative memory (Swinden, 2018).

EMDR Effectiveness Studies in Children and Adolescents

Traumatic experiences of children and adolescents can trigger many psychiatric disorders such as depression, alcohol and substance addictions, sexual dysfunctions, and anxiety disorders (Cicchetti & Toth, 2005; Cohen, 2010; Margolin & Gordis, 2000). In the literature, there are many studies regarding the use of EMDR in the treatment of psychological disorders related to trauma in children (Artigas et al., 2000; Beer, 2018; Farkas et al., 2010; 2000; Jarero et al., 1999). In a study conducted with 22 children who faced the risk of death and lost their families in an earthquake in Italy and showed PTSD symptoms, EMDR was applied at intervals for one year (Fernandez, 2007). The symptoms significantly decreased after the treatment and the participants did not show PTSD symptoms except for three children. One of the most common situations in which traumatic effects are observed in children is migration and refugee status. Oras and colleagues (2004) added EMDR methods to their psychodynamic therapy program with 13 refugee children living in Sweden. At the end of the treatment, the level of functionality increased significantly, and PTSD symptoms decreased.

Traumatic events could occur at the individual level or could be experienced by the large groups such as natural disasters, wars, epidemics, which might have long-term effects for community mental

health (Jarero et al., 2006; Zara, 2018). In dealing with such situations, the “EMDR Integrated Group Therapy Protocol (EMDR-IGTP)” was developed by the Mexican Association for Mental Health Support in Crisis to be able to intervene with a small number of professionals (Artigas et al., 2000; Jarero et al., 1999). In a flood disaster in Argentina, a single-session EMDR-IGTP was applied to 124 students in a school, and a follow-up study was conducted to compare before and three months after the treatment. It was found that there was a significant decrease in the SUD level during and at the end of the application (Adúriz et al., 2009). In another study conducted with 34 children who had abuse and neglect traumas; EMDR protocols were applied to both individuals and groups (EMDR-IGTP) (Jarero et al., 2013). There was a decrease in the scores of PTSD Symptoms and Children's Response to Traumatic Events Scale after the application, and the decrease also observed in the follow-up study (Jarero et al., 2013).

Although there are many studies about the individual and group practices of the EMDR method, the absence of control groups is seen as an important limitation. Researches in many different fields investigate changes in variables such as PTSD symptoms, SUD level, behavioral changes before and after EMDR application (Fernandez, 2007; Oras et al., 2004; Tutarel-Kışlak, 2004b), and some studies showed the continuing effects in the follow-up studies (Adúriz et al., 2009; Farkas et al., 2010). However, a small number of controlled studies examining the effectiveness of the EMDR method reveal contradictory findings. On the one hand, in a study conducted with 37 children who migrated to Malaysia after the Iraq war, their PTSD symptoms reduced after attending an EMDR group as compared to the people in a control group (Wadua et al., 2010). On the other hand, Rubin and colleagues (2001) conducted a study with 33 children who witnessed abuse or domestic violence, a standard treatment package including individual play therapy, family therapy, and group therapy was applied to one group, while the other group was given additional five-sessions EMDR treatment. However, there was no significant difference between the EMDR and the other group's scores of Child Behavior Checklist in the pre- and post-treatment period (Rubin et al., 2001).

In the relevant literature, there are very few studies conducted in Turkey among the studies on the effectiveness of the EMDR method in children and adolescents (Korkmazlar-Oral & Pamuk, 2002). It is important to test the effects of EMDR studies conducted in a clinical environment with valid and reliable assessment tools.

Results and Recommendations

EMDR therapy with children follows the eight-step standard protocol with integration of games and artistic activities. The family of the child could accompany the EMDR therapy during the information gathering phase and as an observer in the treatment process (Gomez, 2013). Trauma studies shows that in order to cope with the negative emotional burden created by childhood traumas, individuals may suffer from disorders such as depression, alcohol and substance addiction, sexual dysfunctions in their lives (Cohen, 2010; Teicher & Samson, 2013; Zimić & Jukić, 2012). To intervene the negative effects of early traumatic experiences as soon as possible is important and beneficial for children to become happier and healthier adults. In that sense, studies revealed that EMDR is a promising treatment method considering its effectiveness while working with children and adolescents with traumatic experiences (Fernandez, 2007; Jaberghaderi et al., 2004; Jarero et al., 2006; Oras et al., 2004). Especially in countries like Turkey, where multiple traumas are experienced by large groups (Zara, 2018), it is important to demonstrate the effectiveness of EMDR interventions for trauma treatment in individual and group levels. The current study is also important in terms of providing a general framework for EMDR applications in children and their effectiveness in PTSD treatment.

Conflict of Interest The authors declare that they have no conflict of interest.

REFERENCES

- Adler-Tapia, R., & Settle, C. (2008). *EMDR and the art of psychotherapy with children*. Springer Publishing Company.
- Adúriz, M. E., Bluthgen, C., & Knopfler, C. (2009). Helping child flood victims using group EMDR intervention in Argentina: Treatment outcome and gender differences. *International Journal of Stress Management*, 16(2), 138.
- Ahmad, A., & Sundelin-Wahlsten, V. (2008). Applying EMDR on children with PTSD. *European Child & Adolescent Psychiatry*, 17(3), 127-132.
- Artigas, L., Jarero, I., Mauer, M., López Cano, T., & Alcalá, N. (2000, September). *EMDR and traumatic stress after natural disasters: Integrative treatment protocol and the butterfly hug*. Poster presented at the EMDRIA Conference, Toronto, Ontario, Canada.
- Asarlı Tokgöz, A. (2018). Göz hareketleri ile duyarsızlaştırma ve yeniden işleme (EMDR). *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 47, 526-545.
- Beer, R. (2018). Efficacy of EMDR therapy for children with PTSD: A review of the literature. *Journal of EMDR Practice and Research*, 12(4), 177-195.
- Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual Review of Clinical Psychology*, 1, 409-438.
- Cohen, J. A. (2010). Practice parameters for the assessment and treatment of children and adolescents with post-traumatic stress disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(4), 414-430.
- Dorsey, S., McLaughlin, K. A., Kerns, S., Harrison, J. P., Lambert, H. K., Briggs, E. C., Revillion Cox, J., & Amaya-Jackson, L. (2017). Evidence base update for psychosocial treatments for children and adolescents exposed to traumatic events. *Journal of Clinical Child and Adolescent Psychology: The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 46(3), 303-330.
- Farkas, L., Cyr, M., Lebeau, T. M., & Lemay, J. (2010). Effectiveness of MASTR/EMDR therapy for traumatized adolescents. *Journal of Child & Adolescent Trauma*, 3(2), 125-142.
- Fernandez, I. (2007). EMDR as treatment of post-traumatic reactions: A field study on child victims of an earthquake. *Educational and Child Psychology*, 24(1), 65.
- Gomez, A. M. (2013). *EMDR therapy and adjunct approaches with children: Complex trauma, attachment, and dissociation*. Springer Publishing Company.
- Greenwald, R. (1999). *Eye movement desensitization and reprocessing in child and adolescent psychotherapy*. Jason Aronson.
- Hofmann, A., & Luber, M. (2009). History taking: The time line. In M. Luber (Ed.), *Eye movement desensitization and reprocessing (EMDR) scripted protocols*. Springer Publishing.
- Jaberghaderi, N., Greenwald, R., Rubin, A., Zand, S. O., & Dolatabadi, S. (2004). A comparison of CBT and EMDR for sexually-abused Iranian girls. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, 11(5), 358-368.
- Jarero, I., Artigas, L., & Hartung, J. (2006). EMDR integrative group treatment protocol: A post disaster trauma intervention for children and adults. *Traumatology*, 12(2), 121- 129.
- Jarero, I., Artigas, L., López Cano, T., Mauer, M., & Alcalá, N. (1999, November). *Children's post-traumatic stress after natural disasters: Integrative treatment protocol*. Poster presented at the annual meeting of the International Society for Traumatic Stress Studies, Miami, FL.
- Jarero, I., Roque-López, S., & Gomez, J. (2013). The provision of an EMDR-based multicomponent trauma treatment with child victims of severe interpersonal trauma. *Journal of EMDR Practice and Research*, 7(1), 17-28.
- Korkmazlar-Oral, U., & Pamuk, S. (2002). Group EMDR with child survivors of the earthquake in Turkey. *Asso-*

- ciation of Child Psychology and Psychiatry (ACPP). Occasional Papers No. 19, 47-50.
- Lovett, J. (1999). *Small wonders: Healing childhood trauma with EMDR*. The Free Press.
- Luber, M. (2010). *Eye movement desensitization and reprocessing (EMDR) scripted protocols: Special populations*. Springer Publishing Company.
- Margolin, G., & Gordis, E. B. (2000). The effects of family and community violence on children. *Annual Review of Psychology/Annual Review*, 51, 445-479.
- Novo Navarro, P., Landin-Romero, R., Guardiola-Wanden-Berghe, R., Moreno-Alcazar, A., Valiente-Gomez, A., Lupo, W., Garcia, F., Fernández, I., Pérez, V., & Amann, B. L. (2018). 25 years of eye movement desensitization and reprocessing (EMDR): The EMDR therapy protocol, hypotheses of its mechanism of action and a systematic review of its efficacy in the treatment of post-traumatic stress disorder. *Revista de Psiquiatria y Salud Mental*, 11(2), 101-114.
- Oras, R., Ezpeleta, S. C. D., & Ahmad, A. (2004). Treatment of traumatized refugee children with eye movement desensitization and reprocessing in a psychodynamic context. *Nordic Journal of Psychiatry*, 58(3), 199-203.
- Rodenburg, R., Benjamin, A., Roos, C. D., Meijer, A. M., & Stams, G. J. (2009). Efficacy of EMDR in children: A meta-analysis. *Clinical Psychology Review*, 29(7), 599-606.
- Rubin, A., Bischofshausen, S., Conroy-Moore, K., Dennis, B., Hastie, M., Melnick, L., Reeves, D., & Smith, T. (2001). The effectiveness of EMDR in a child guidance center. *Research on Social Work Practice*, 11(4), 435-457.
- Shapiro, F. (2001). *Eye movement desensitization and reprocessing: Basic principles, protocols, and procedures* (2nd Ed.). Guilford Press.
- Shapiro, F. (2002). *EMDR as an integrative psychotherapy approach: Experts of diverse orientations explore the paradigm prism*. American Psychological Association.
- Shapiro, F. (2007). EMDR, adaptive information processing, and case conceptualization. *Journal of EMDR Practice and Research*, 1, 68-87.
- Shapiro, F. (2014). The role of eye movement desensitization and reprocessing (EMDR) therapy in medicine: addressing the psychological and physical symptoms stemming from adverse life experiences. *The Permanente Journal*, 18(1), 71-77.
- Shapiro, F. (2017). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols, and procedures*. Guilford Publications.
- Shapiro, F., & Maxfield, L. (2002). Eye movement desensitization and reprocessing (EMDR): Information processing in the treatment of trauma. *JCLP/In Session: Psychotherapy in Practice*, 58(8), 933-946.
- Shapiro, F., Wesselmann, D., & Mevissen, L. (2017). Eye movement desensitization and reprocessing therapy (EMDR). In Landolt M., Cloitre M., Schnyder U. (Eds.) *Evidence-Based Treatments for Trauma Related Disorders in Children and Adolescents*. Springer, Cham.
- Swinden, C. (2018). The child-centered EMDR approach: A case study investigating a young girl's treatment for sexual abuse. *Journal of EMDR Practice and Research*, 12(4), 282-296.
- Teicher, M. H., & Samson, J. A. (2013). Childhood maltreatment and psychopathology: A case for ecophenotypic variants as clinically and neurobiologically distinct subtypes. *American Journal of Psychiatry*, 170(10), 1114-1133.
- Tinker, R., & Wilson, S. (1999). *Through the eyes of a child: EMDR with children*. WW Norton & Company.
- Tutarel-Kışlak, Ş. (2004a). Görme engelli bireyde göz hareketleriyle duyarsızlaştırma ve yeniden işleme tedavisi yönteminin dize hafifçe vurma alternatifinin uygulanması: Bir olgu sunumu. *Psikoloji Yazıları Dergisi*, 7(14), 77-90.
- Tutarel-Kışlak, Ş. (2004b). "Kaygı duyarlılığını azaltmada göz hareketleriyle duyarsızlaştırma ve yeniden işleme (EMDR) tedavisi". *Türk Psikoloji Dergisi*, 19(53), 49-65.
- Wadaa, N. N., Zaharim, N. M., & Alqashan, H. F. (2010). The use of EMDR in treatment of traumatized Iraqi children. *Digest of Middle East Studies*, 19(1), 26-36.
- Zara, A. (2018). Kolektif travma döngüsü: Kolektif travmalarda uzlaşma, bağışlama ve onarıcı adaletin iyileştirici rolü. *Klinik Psikiyatri Dergisi*, 21(3).
- Zimić, J. I. & Jukić, V. (2012). Familial risk factors favoring drug addiction onset. *Journal of Psychoactive Drugs*, 44(2), 173-185.