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Eye Movement Desensitization And Reprocessing To Treat PTSD In Adolescents

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EYE MOVEMENT DESENSITIZATION AND REPROCESSING TO TREAT PTSD IN
ADOLESCENTS

by

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PERMISSION

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Abstract

Patient is an 11-year old American Indian admitted to an inpatient child psychiatric unit for suicidal ideation. She has a history of being sexually abused multiple times by a family member when patient was 8 years old. She reports hallmark signs of post-traumatic stress disorder (PTSD). Referral was made for outpatient eye movement desensitization and reprocessing (EMDR) therapy. Research exists showing EMDR therapy has been successful in treating symptoms of PTSD in children and adolescents. The World Health Organization (WHO) has endorsed EMDR therapy in trauma survivors. Mental health care professionals should refer patients to EMDR therapy if they have a history of trauma and significant PTSD symptoms to improve patient outcomes.

EYE MOVEMENT DESENSITIZATION AND REPROCESSING TO TREAT PTSD IN ADOLESCENTS

Background

Childhood abuse and other adverse childhood experiences are common causes of PTSD symptoms. The Centers for Disease Control and Prevention (CDC) estimates the annual cost of treating the effects of childhood abuse and neglect at 124 billion dollars (Roberts, 2019). Approximately 20% of the U.S. population has experienced 4 or more adverse childhood experiences and abuse is one of the most prevalent (Roberts, 2019). Toxic stress has been shown to alter brain structure and function by pruning the prefrontal cortex into a brain built for survival and it loses some of the capacity for executive functioning (Roberts, 2019). According to Dulcan (2016) “fear conditioning and failure of inhibitory learning have been hypothesized as underlying mechanisms for the development of PTSD following exposure to a traumatic event” (Etiology section, para. 1).

During an EMDR session patients recall the traumatic memories while simultaneously engaging in repetitive eye movements.

According to Solomon and Shapiro (2008):

The EMDR protocol involves accessing the dysfunctionally stored information, stimulating the innate processing system through the standardized protocols and procedures (including the bilateral stimulation), and facilitating dynamic linkages to adaptive memory networks, thereby allowing the characteristics of the memory to change as it transmutes to an adaptive resolution. (p. 316).

Children with PTSD should be treated with therapy prior to pharmacological intervention unless there exists an imminent safety risk (Dulcan, 2016).

Case Report

Patient was brought to the ED by EMS for reports of suicidal ideation and after being medically cleared was admitted to the child unit at Avera Behavioral Health. Her cousin and her were both victims of repetitive childhood sexual abuse at the age of 8, and her cousin was recently admitted to a psychiatric hospital in North Dakota. Patient reported feeling like her cousin is the only person that can truly understand her situation and finding out her cousin was leaving increased patient's thoughts about suicide. The trial date for her assailant is approaching and she has experienced flashbacks, nightmares, nocturnal enuresis, intrusive thoughts, and sleep phase shift. Prior to hospitalization her and her cousin were in the bathroom cutting off each other's hair and patient refused to give up the scissors when prompted, and it allegedly required 3 adults to get them away from her. Patient reported they were cutting their hair as a cultural practice related to mourning the loss of a loved one and her grandma reported they did not do it properly, so they are now both cursed.

This is patient's first psychiatric hospitalization. She has had some outpatient therapy at Support Circles and her last appointment was 2 months ago. Patient reported significant distress related to witnessing her grandfather pass away (5 years ago) while having a seizure at her auntie's house. She has felt guilty about not helping him and did not realize he was having a seizure. She was also not allowed to attend his funeral. In addition to this loss patient has had 2 uncles that have completed suicide; one a few years ago and the other one just recently. She has felt sadness and isolative for at least the past 2 years. She has had difficulty concentrating since elementary school due to being distracted easily. She has been oppositional, poor at completing tasks, poor organization, loses things often, aggressive with peers, victim of bullying, and lies

often. She denied ever feeling a decreased need for sleep, increased self-esteem/grandiosity. Denied eating disorder behaviors. Denies hallucinations. Denied changes in appetite, anhedonia, or poor energy. She has a history of self-harm via cutting (last cut 2 weeks ago) and reported 5 previous suicide attempts by cutting. She denied ever being trialed on any medications to treat mental illness but does take melatonin to help initiate sleep occasionally.

She has lived with several different family members throughout her life including her mom, two separate aunts, and her grandparents on two separate occasions. She most recently has been living with her grandparents, uncle, and 3 cousins (ages 15,13, and 12). Patient reported her only friends are her cousins and if they are not available to be with she isolates in her room. Patient's mom has allegedly given her alcohol and marijuana in the past (5 years ago) and she was sexually assaulted by her stepfather when she lived with them. She denied any other nicotine, alcohol, or illicit drug use. She has not had contact with her mom for the past 3 years but does see her biological father occasionally. She has been held back in school one time so is now a 6th grader but reports she should be in 7th grade. Denies having an IEP in place but does report some difficulty in reading. She reported enjoyment with drawing and photography. She denied any consensual sexual activity or interest in dating. Her grandma alleged that patient has been sending inappropriate pictures of herself to a male peer and recently had her phone taken away due to these behaviors.

She denied knowing of any in utero exposure to substances and denied knowing of any developmental delays. She denied any history of known head traumas, seizures, cardiac abnormalities, thyroid issues, or surgical procedures. Reported frequent ear infections, constipation, and GERD. Lab results including CBC, CMP, and TSH were all unremarkable. Drug screen, ETOH, Tylenol, and salicylate were all negative.

Diagnostics

Patient meets the criteria for a PTSD diagnosis. She directly experienced traumatic events on multiple occasions. She was sexually abused, witnessed her grandpa dying, and is aware that her closest friend/cousin was also sexually abused. She also meets 3 of the 5 criteria B requirements including intrusive thoughts, nightmares, and dissociative reactions in the form of flashbacks. She avoids looking at the house where the sexual abuse took place when she has to go through that neighborhood. She has persistent negative beliefs about herself and feels guilt, anger, and shame. She also blames herself for her grandpa's death. She has also felt detachment and persistent inability to feel happiness since the traumatic experiences. She has difficulty with concentration, irritability/anger, feeling of hypervigilance, and reckless/self-destructive behavior by self-harming and sending inappropriate pictures to male peers. The duration of symptoms has far exceeded the one month minimum for a PTSD diagnosis and it has been clinically significant and caused impairment in social settings. These symptoms are not better explained by the physiological effects of a substance or other medical condition.

Additional diagnoses that were considered for this patient outside the aim of this paper include:

Major Depressive Disorder

Persistent Complex Bereavement Disorder

Attention Deficit Hyperactivity Disorder

Generalized Anxiety Disorder

Treatment Plan

Patient admitted to the child unit on 8-minute safety checks and suicide precautions. A consult was made for psychology for inpatient therapy and psychological testing. Encourage patient to participate in group work and individual assignments. Continue to gather information

from patient and adjust care plan accordingly. Obtain guardian consent and start patient on atomoxetine 25 mg for PTSD and ADHD symptoms. Educate patient on medication side effects including black box warning or increased suicidal ideation. Order EKG to screen for unknown cardiac issues that may contraindicate the prescribing of atomoxetine. Refer patient for Eye Movement Desensitization and Reprocessing (EMDR) therapy on an outpatient basis.

Literature Review

Survivors of childhood violence are high risk for developing a variety of mental illnesses, aggressive behaviors, and chronic diseases (Tusaie & Fitzpatrick, 2017). Rates of childhood PTSD are unknown due to misdiagnosis and unreported cases of physical, emotional, and sexual abuse (Boyd, 2012). Trauma induced PTSD can be difficult to treat using only pharmacological interventions. Stahl (2018) states, “PTSD is so highly comorbid that many of the psychopharmacologic treatments are more effectively aimed at comorbidities such as depression, insomnia, substance abuse, and pain than at core symptoms of PTSD” (p. 418). Research on childhood onset of PTSD therapies is not as robust as it is for adult populations. Victims of childhood sexual abuse have a high likelihood of developing PTSD especially if they have been victimized on multiple occasions (McLaughlin, 2019).

Diehle, Opmeer, Boer, Mannarino, and Lindauer (2015) compared EMDR therapy to Trauma Focused Cognitive Behavior Therapy (TF-CBT) for treatment of PTSD symptoms using a randomized controlled trial. The research was designed to figure out which therapy is more effective and also to gauge efficiency of treatment sessions in an outpatient setting (Diehle et al., 2015). Participants in the study were between the ages of 8 and 18, had at least one traumatic experience, and had a full or partial PTSD symptoms based on the Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA) (Diehle et al., 2015). Subjects were excluded if

they had clinical symptoms of autism, psychosis, substance use disorder, or were acutely suicidal (Diehle et al., 2015). There were 71 subjects eligible however 10 did not meet inclusion criteria and 13 refused participation so 48 subjects were randomized, and the TF-CBT group ended up with n=23 and the EDMR group had n=25.

The results of the randomized controlled trial did not show significant difference between the two therapies and both showed a decrease in PTSD symptoms. Diehle et al. (2015) states, “our findings are very encouraging for the application of TF-CBT and EMDR in clinical practice. In each condition, only one child remained with a full PTSD diagnosis” (p. 234). Although many of the results of this study are promising the small sample size warrants further study in larger populations to increase power of their study. Patients and parents were surveyed pre- and post- intervention but the study did not include any long-term follow-up, so the study did not attempt to measure sustained remission.

Lewey et al. (2018) performed a meta-analysis of 30 studies to compare effectiveness of TF-CBT to EMDR therapy in children and adolescents. The goal of research was to determine which treatment was superior as opposed to previous studies that have shown both to be effective. Lewey et al. (2018) states, “it should be noted that this meta-analysis serves as the first of its kind to directly compare the evidence base for EMDR and TF-CBT for treating trauma symptoms in youth” (p. 460). Researchers set parameters for inclusion to studies that included children aged 3-18 that had experienced a traumatic event, were involved with TF-CBT or EMDR for therapy, a calculable effect size, a method in place to measure symptoms, and was in English (Lewey et al., 2018). The initial pool included 471 studies however only 30 met the parameters for inclusion. Approximately 1200 patients were included, and studies were included from several different countries with various tools used to measure symptom outcomes.

Lewey et al. (2018) determined that both interventions were effective for reducing symptoms of PTSD, however contrary to Diehle et al. (2015), which showed only slight differences between treatments, Lewey et al. (2018) showed TF-CBT to be marginally superior in symptom reduction. Patients with a clinical PTSD diagnosis had less symptom relief compared to their peers with sub-clinical diagnostic symptoms regardless of which intervention they participated in (Lewey et al., 2018). It is not surprising that early intervention results in better patient outcomes as this is typical of most mental illnesses. Although not explicitly researched Lewey et al. (2018) states, “EMDR, may be more helpful for those children who struggle with language difficulties, as there are less reading- and writing-based elements than in TF-CBT” (p. 466). The number of studies that used TF-CBT as an intervention was over double the number that used EMDR, and “while the included studies did vary considerably with high heterogeneity across treatment-specific and client characteristic analyses, research designs were generally considered strong” (Lewey et al., 2018, p. 467). Some studies also failed to identify the severity of trauma and information on previous attempts at treating symptoms in participants (Lewey et al., 2018). The strength of the meta-analysis could have been increased by focusing on specific types of trauma for example sexual abuse instead of including several different trauma exposures (Lewey et al., 2018).

Roos et al. (2017) conducted a randomized clinical trial to compare EMDR therapy to cognitive behavioral writing therapy (CBWT) and wait-list (control) following a single traumatic event. They included a control group with no treatment which has not been done consistently in previous research. Roos et al. (2017) increased homogeneity by only including single traumatic exposure individuals which was in contrast to the studies by Lewey et al. (2018) and Deihle et al. (2015). Patients that were excluded from the study included those with symptoms of other

urgent illnesses, ongoing traumatic exposure, psychotropic medication trial in the previous 90 days, currently received other modes of therapy, and a full-scale IQ less than 80. In addition to measuring symptoms pre- and post- treatment this study also followed up at 6-month and 12-month intervals (Roos et al., 2017). Randomization was done in blocks of 5 with 2 going in the EMDR group, 2 in the CBT writing group, and 1 going to wait-list. Wait list appointments were that meet inclusion criteria after 6 weeks were rerandomized to a therapy group (Roos et al., 2017).

Outcomes were measured by the Revised Children's Responses to Trauma Inventory and DSM criteria for PTSD (Roos et al., 2017). Out of 169 participants assessed for participation 103 were randomized and with 43 in the EMDR group, 42 allocated to CBWT, and 18 to wait-list only 2 dropped out prior to post-treatment (Roos et al., 2017). Homogeneity was achieved for number of traumatic events however there was still significant heterogeneity with regard to type of trauma experienced and Roos et al. (2017) included physical abuse, assault, sexual abuse, accidents, traumatic loss, and natural disasters. Similarly, to studies by Deihel et al. (2015) and Lewey et al. (2018) both treatments showed a reduction in symptoms of PTSD, however there was no significant difference in effectiveness between EMDR and CBWT (Roos et al., 2017). The time spent with EMDR patients was on average 1 hour and 27 minutes less compared to CBWT group suggesting that EMDR may be more efficient but equally effective (Roos et al., 2017).

Brown et al. (2017) conducted a meta-analysis and systematic review of interventions for children and adolescents that experienced natural and man-made disasters. Effectiveness of EMDR, CBT, narrative exposure therapy, and classroom-based interventions were compared (Brown et al., 2017). Thirty-six studies were included with a total number of participants of

3541 in the therapy groups and 870 in the control group (Brown et al., 2017). Pre- and post-assessments showed all methods to be effective at alleviating symptoms of PTSD and no significant difference between therapy groups (Brown et al., 2017). Data related to the EMDR groups in this study may not be applicable to the purpose of this report due to Brown et al. (2017) stating, “50% of the studies on EMDR did not assess specific PTSD symptoms, but general distress in relation to the traumatic event, results on EMDR need to be interpreted with care” (p. 11). Brown et al. (2017) acknowledges many limitations to the results of the review including high heterogeneity in time-frames of assessment, assessment tools used, time elapsed between event and initiation of therapy, and sample size.

Mevissen, Didden, Korzilius, and de Jongh (2017) measured EMDR in a child and an adolescent with an intellectual disability. Lewey et al. (2018) suggested EMDR as an alternative for populations that may have difficulty with the reading and comprehension aspects of CBT. Subjects in Mevissen et al. (2017) both met diagnostic criteria for PTSD via an interviewing method modified and validated for this population. Participants were a 10-year-old male and 18-year-old male and both of them achieved a decrease in symptoms significant enough that neither of them met criteria for a PTSD diagnosis at a 6-week follow up assessment (Mevissen et al., 2017). Obviously, a major limitation with this study was an extremely small sample size of only two participants. Further research is needed in a larger sample size to extrapolate the data to a general population. It would have also been beneficial to have additional follow up assessments to see if patients remained at sub-clinical diagnostic levels. Strengths of the study included no conflicts of interest and both participants were exposed to domestic violence which is one of the most common trauma experiences in childhood (Mevissen et al., 2017).

Schubert (2016) conducted a study to test the effectiveness of EMDR in a highly conflicted Southeastern Asian country. Although, this study only included adult participants it was included because it was one of the few studies that compared EMDR to a control group directly without including other therapies. Study design included a 2 week wait list control group which allowed enough time for the participating group to complete therapy (Schubert, 2016). Follow-up was at 2 weeks after the final session and then again at 3 months. Participants were recruited through two community health organizations and had to meet the following criteria: at least 18 and no older than 65, self-reported symptoms of PTSD or score greater than or equal to 2 on Harvard Trauma Questionnaire (HTQ), no blindness or history of ocular disease (Schubert, 2016). There were 23 initial participants but 2 dropped out prior to completion so $n=21$. The researchers may have inadvertently exposed the wait list/control group to an intervention by instructing them to use coping and calming techniques during their 2 week wait for therapy (Schubert, 2016). Treatment session frequency was also based on individual needs however the researchers decline to provide how these needs were determined or how many sessions each participant completed. Schubert et al. (2016) states, “at the end of the waitlist period, 17 of the 21 participants still scored ≥ 2 on the PTSD scale, whereas at posttreatment only 1 participant scored above 2 on the PTSD scale” (p. 145). Follow-up was at posttreatment and 3 months and 16 of the participants had decreased PTSD symptoms at the three-month interval (Schubert, 2016). In addition most participants experienced positive outcomes for depression and anxiety symptoms (Schubert, 2016). Despite a small sample size this report adds to the breadth of data regarding the effectiveness of EMDR therapy for PTSD in adults and also suggests this intervention may have utility across cultures (Schubert, 2016).

Implications for Practice

EMDR therapy improved symptoms of PTSD in all the literature reviewed so referring appropriate patients is recommended. Further studies, especially in adolescent populations, is needed to determine if certain therapies may be more effective depending on the specific trauma inducing event. Lewey et al. (2018) emphasizes the importance of gauging the child's ability to understand and participate in CBT concepts and in some cases a referral to EMDR therapy may be more appropriate. Parents observation of EMDR is allowed however interaction or participation in the sessions is contraindicated (Lewey et al., 2018). Mevissen et al. (2017) recommends "importance of timely PTSD treatment and the need of further research to establish a firm evidence base for EMDR therapy as an effective treatment" (p. 40). None of the research reported any adverse effects from any of the therapeutic interventions and due to limited success of pharmacological interventions to treat PTSD referral to EMDR or CBT should be considered if resources are available. Diehle et al. (2015) states, "in order to find out which therapy works best for which child, future studies should address predictive factors of treatment effects" (p. 235).

Summary

Manifestations of PTSD can vary from extreme anxiety, flashbacks, anhedonia, and dissociative symptoms (American Psychiatric Association, 2013). Regardless of the presentation these patients are at an increased risk of suicidal ideation and developing co-morbid mental and physical illnesses. Victims of abuse during childhood are more likely to have unstable relationships and precarious residential situations in adulthood (Tusaie & Fitzpatrick, 2017). Children with PTSD are especially prone to manifest avoidant behaviors such as social isolation, restricted play, and hopelessness for the future (American Psychiatric Association, 2013).

According to Boyd (2012) EMDR therapy “has been successful in minimizing the fear response and avoidance pattern of those with PTSD” (p. 486). Psychotherapy is considered first-line treatment for PTSD, and EMDR is a specific type of psychotherapy that combines “elements of effective psychodynamic, imaginal exposure, cognitive interpersonal, experiential, physiological, and somatic therapies” (Tusaie & Fitzpatrick, 2017, p. 116). EMDR therapy has been used and studied extensively in adult patients with PTSD (Tusaie & Fitzpatrick, 2017). However, in adolescent patients the amount of studies is not nearly as robust. It is common knowledge in the medical field that early intervention produces better and more efficient outcomes. The existing evidence shows that EMDR therapy has reduced symptoms in adolescent patients with PTSD. Further research should be conducted to measure degree of effectiveness and long-term remission of symptoms as a direct result of EMDR sessions in this specific population. It can then be determined if EMDR has the potential of becoming the “gold standard” of treatment for PTSD in the adolescent population.

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