Examination of Initial Evidence for EMDR as a Treatment for Obsessive-Compulsive Disorder

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Obsessive-compulsive disorder (OCD) is a debilitating psychological condition that impacts millions of people globally. The front-line psychological intervention for OCD is exposure/response prevention (ERP), however, many individuals do not respond to this treatment approach. Eye movement desensitization and reprocessing (EMDR) is a new therapeutic option which could be effective in treating OCD. This review examined the initial evidence for the effectiveness of EMDR in reducing OCD symptoms. Nine studies were included in the review, including six case studies and three group studies. Results indicate that EMDR is a promising candidate for treating OCD, with all studies showing EMDR therapy resulted in reduced symptoms from baseline. Results also indicated that EMDR may be as effective as ERP, and more effective than selective serotonin reuptake inhibitors (SSRIs) in treating OCD.

Keywords: obsessive-compulsive disorder; eye movement desensitization and reprocessing therapy (EMDR); review; treatment

Obsessive-compulsive disorder (OCD) is a debilitating psychological disorder that holds a lifetime prevalence estimate of approximately 1.3% (Fawcett et al., 2020), meaning that globally, over 100 million people will meet diagnostic criteria for OCD during their lives. Indeed, prevalence studies predict that OCD affects approximately half a million children in the United States alone (Marsden, 2016), and up to 400 thousand amongst adults in Australia (Hashmi et al., 2020).

According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), OCD is characterized by obsessions (i.e., intrusive, or unwanted and recurrent persistent thoughts, images, or urges) and/or compulsions. The content of obsessions varies from person to person, including fears of contamination, and harm or bad things happening (to the self or to others). Compulsions are repetitive behaviors or mental acts that an individual feels compelled to perform in response to an obsession. For instance, an individual may feel driven to wash their hands repeatedly to quell the obsessive thought that they are contaminated by germs. To meet diagnostic criteria, obsessions and compulsions must be time-consuming and cause clinically significant distress and/or impair one's ability to function in daily activities. Of concern, OCD has been associated with poorer quality of life (Jahangard et al., 2018) as well as numerous negative mental health outcomes including, but not limited to, mood and anxiety disorders (Cervin et al., 2020; Rintala et al., 2017), alcohol and substance abuse (Osland et al., 2018), and suicidal thoughts and attempts (Bowen et al., 2019).

The front-line psychological intervention for OCD is exposure/response prevention (ERP; Hezel & Simpson, 2019). However, not all individuals respond to this treatment approach. Indeed, some studies suggest that, when undertaking ERP, up to 50% of people coping with OCD do not show a significant improvement in symptoms, do not complete treatment, or are resistant to participating in treatment (Abramowitz et al., 2002; Farris et al., 2013; Forray et al., 2010;

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Whittal et al., 2005). Thus, it is important to explore new therapeutic modalities that may be helpful in reducing symptoms of OCD.

EMDR Therapy

A psychological intervention that has recently gained traction in the clinical world is eye movement desensitization and reprocessing (EMDR) therapy. EMDR is a psychological therapy that was originally designed for individuals coping with posttraumatic stress disorder (PTSD). For those with PTSD, EMDR functions to alleviate the association between traumatic memories, and distressful emotions and bodily sensations (Shapiro, 1989; 2017; Shapiro & Forrest, 2016). Ideally, EMDR aims to facilitate the processing and resolution of traumatic memories and related adverse life experiences though lowering the associated physiological arousal, reformulating negative beliefs, and relieving distressing emotions (Shapiro, 2017).

During EMDR therapy, the client is asked to attend to emotionally salient content relating their traumatic experience in short sequences while simultaneously focusing on an external stimulus (e.g., bilateral stimulation through guided horizontal saccadic eye movements). Although the exact underlying mechanisms of action are still unknown, Shapiro (2017), guided by the adaptative information processing model, hypothesized that EMDR therapy enables access to the neural network of the target traumatic memories. Once accessed, new more adaptive memories, experiences, and information are then able to be effectively integrated into existing memory networks, and thus forge with the traumatic memories. These new associations were theorized to reduce emotional distress and promote new learning and insight (Shapiro, 2017). More recently, Landin-Romero et al. (2018) conducted a systematic review to examine the mechanism of action of EMDR. The authors concluded that several hypotheses showed promise in providing sound psychological and physiological explanations for EMDRs mechanism of action, including the (a) working memory theory and (b) the rapid eye movement (REM) sleep theory. The working memory theory posits that due to the limited capacity of working memory, the dual task of attending to bilateral eye movements and visual imagery of traumatic memories impair the processing of both tasks. Thus, traumatic content will be impaired due to a lack of cognitive resources, leading to less vivid and emotional, and therefore less distressing traumatic imagery (Andrade et al., 1997; Kavanagh et al., 2001; Sharpley et al., 1996). The REM sleep theory posits that the bilateral eye movements in EMDR may produce a comparable brain state to that occurring during REM sleep. Like the adaptive functions of REM sleep (Born et al., 2006), EMDR could promote the weakening and reprocessing of episodic traumatic memories (Stickgold, 2008). Of note, Landin-Romero et al. (2018) concluded their review by emphasizing that the understanding of mechanisms underlying EMDR therapy are still theoretical, and further research with larger samples and tighter methodological control are essential in order to establish firm conclusions.

Despite the lack of a clear understanding of how the EMDR mechanisms of action work, the empirical literature provides substantial evidence that EMDR is effective in reducing symptoms of PTSD (Benish et al., 2008; Chen et al., 2014, 2015; Korn, 2009; Novo Navarro et al., 2016; Wilson et al., 2018). This accumulation of evidence has led the World Health Organization to recognize EMDR as a treatment of choice for PTSD (Born et al., 2013). Due to these demonstrated benefits, researchers and clinicians are now starting to examine the applicability for EMDR in treating other psychological disorders such as anxiety disorders, bipolar disorder, unipolar depression, substance use disorders, and OCD (Valiente-Gómez et al., 2017).

EMDR and OCD

Why might OCD an appropriate candidate for EMDR therapy? For one, there appears to be a direct association between trauma and the development of OCD symptoms (Cromer et al., 2007; Dykshoorn, 2014; Lochner et al., 2002; Real et al., 2011), with up to 70% of individuals presenting with OCD symptoms after experiencing a traumatic event (Fontenelle et al., 2012; Gershuny et al., 2008). Indeed, studies have shown that different types of trauma, such as assault, are predictive of more severe of OCD symptoms (Barzilay et al., 2019), and that past trauma is associated with greater OCD symptoms, particularly compulsions (Miller & Brock, 2017). Additionally, OCD and PTSD share some similarities in terms of symptoms, including repeated intrusive images and thoughts that produce intense anxiety and avoidance. Given this, it seems plausible that through enhanced processing of traumatic memories and therefore the lowering the associated physiological arousal, negative beliefs, and distressing emotions, EMDR could effectively help to alleviate symptoms of OCD.

Examining the Evidence

The initial evidence for the effectiveness of EMDR in treating OCD is encouraging. In total, nine studies that examined the effectiveness of EMDR for treating OCD were identified (Table 1), six of which were case reports and three of which were group studies. Of note, all studies used the Yale–Brown obsessive-compulsive scale (YBOCS; Goodman et al., 1989) to measure OCD symptoms, and all but one reported follow-up data. The number of EMDR therapy sessions varied greatly, ranging from 8 to 45 across all studies, although not all studies accurately reported the number of therapy sessions. Four studies used EMDR alone, whilst the remaining five studies combined EMDR with ERP or pharmacotherapy.

All studies demonstrated that on average, YBOCS scores decreased between pre- and posttreatment. Notably, six out of nine studies presented patients with *severe* or *extreme* YBOCS scores on average at pretreatment, and all but one study (Marsden et al., 2018) demonstrated a reduction to or below *mild* YBOCS scores at posttreatment. Further, all improvements were maintained at follow-up.

Case Studies

The earliest case study identified in the review presented three patients with an OCD diagnosis (Böhm & Voderholzer, 2010). All three patients received EMDR and ERP, with two receiving EMDR followed by ERP, and the third receiving ERP followed by EMDR. Results showed significant reduction in YBOCS scores, which were maintained at follow-up (Böhm & Voderholzer, 2010). Similarly, Mazzoni et al. (2017) examined the effects of a combination of EMDR and ERP on three patients. Results were analogous to Böhm and Voderholzer (2010), with all three

TABLE 1. Study Details and YBOCS Means of EMDR Therapy for Patients With OCD

			YBOCS Global Score Mean (*SD*)		
Author(s)	Sample Size	Number of Sessions	Pretreat	Posttreat	Follow- Up
Böhm and Voderholzer (2010)[a]	3	n/a	35.5; 16[d]	13; 8[d]	6 months = 13.5; 11
Keenan et al. (2019)[b]	8	8	23.5	12.50	1 month = 10.10 3 months = 10
Marr (2012)	4	14–16	35.3	8.50	4–6 months = 7.50
Marsden (2016)	3	16	17	6.5	6 months = 4
Marsden et al. (2018)	29	Mean = 10.17	25.07	18.72	6 months = 18.24
Mazzoni et al. (2017)[a]	3	20–45	29.33	9.70	For $n = 1$ 3 months = 17 6 months = 22
Nazari et al. (2011)	45	12	24.83	13.60	n/a
Potik et al. (2020)[c]	1	n/a	19	7	6 months = 4; 12 months = 4
Sarichloo et al. (2020)[a]	30	12	24.26	5.50	3 months = 4.96

Note. EMDR = eye movement desensitization and reprocessing; OCD = obsessive-compulsive disorder; YBOCS = Yale–Brown obsessive-compulsive scale.

Case studies were averaged across participants.

[a]Combined with ERP.

[b]Patients had previously undergone ERP.

[c]Combined with pharmacotherapy.

[d]YBOCS obsessive thinking items for $n = 1$; YBOCS interpretation: 8–15 = mild; 16–23 = moderate; 24–31 = severe; 32–40 = extreme.

clients displaying significant reductions in OCD symptoms posttreatment. Follow-up data was only presented for one client, showing that YBOCS scores rose from 18 posttreatment to 22 at 6-month follow-up. However, this small rise in score does not represent a rise in YBOCS classification, with this patient's symptoms remaining *moderate* 6 months posttreatment. Keenan et al. (2019) presented a clinical case series design composed of eight patients that had previously undergone ERP to treat their OCD but still presented with significant OCD symptoms. Despite lower pretreatment symptoms than all other presented studies in this review, the authors found that YBOCS scores decreased significantly during treatment and that this reduction in symptoms was maintained at 6-month follow-up. One case study also considered utilizing EMDR to treat a client with a dual diagnosis of OCD and schizoaffective disorder (Potik et al., 2020). This client received antipsychotic medication to target psychotic symptoms and a combination of EMDR and a selective serotonin reuptake inhibitor (SSRI; fluoxetine) to treat OCD symptoms. Potik et al. (2020) found that as a result, OCD symptoms were significantly reduced at posttreatment, and at 6-month and 12-month follow-up.

Several case studies have examined the effectiveness of EMDR alone. Marr (2012) presented four male patients who underwent a variation of EMDR therapy based on Shapiro's (2017) phobia protocol, finding that on average, all patients went from *severe* to *mild* OCD symptoms during the course of treatment. Marsden (2016) used a similar EMDR protocol to Marr (2012) with similar results, finding that three patients had significantly reduced YBOCS scores posttreatment and at 6-month follow-up compared to baseline.

Group Studies

Only three group studies examining EMDR and OCD were identified in the extant literature, however all three showed that EMDR is effective in reducing OCD symptoms. Nazari et al. (2011) compared the effectiveness of EMDR and an SSRI (citalopram) in treating OCD, finding that both the EMDR and an SSRI groups showed significant reductions in OCD symptoms after treatment. Notably, the EMDR group showed a greater reduction in YBOCS scores (mean of difference scores = 11.2) compared to the SSRI group (mean of difference scores = 6.2), suggesting that in their sample, EMDR was more effective in treating OCD than pharmacotherapy (Nazari et al., 2011). Marsden et al. (2018) compared the effectiveness of treating OCD with EMDR to ERP in a randomized controlled trial (RCT). They found that both groups significantly reduced OCD symptoms at posttreatment and 6-month follow-up, and that there were no differences between the EMDR and ERP groups. Similarly, Sarichloo et al. (2020) compared the effectiveness of EMDR combined with ERP (EMDR + ERP) and ERP alone on a sample of medication-resistant OCD patients with a history of trauma. They found that although both groups resulted in a reduction of OCD symptoms, the EMDR + ERP group was more effective in reducing symptoms. Additionally, the authors noted that there was a higher rate of therapy completion in the EMDR + ERP group.

Limitations and Recommendations

One important limitation evident in the present review was the heterogeneous protocols employed across all studies. There was a large variance in the number of EMDR sessions and general therapy sessions, how other therapies (like ERP) were combined with EMDR, and the frequency and intervals of measuring OCD symptoms. Additionally, many of the reviewed studies also lacked a clear description of the methodological details of their study (e.g., information about the number of EMDR sessions completed, the frequency and length of EMDR sessions, etc.). Further, the lack of null results is potentially concerning. All nine studies demonstrated that EMDR therapy results in significantly reduced YBOCS scores, potentially reflecting the positive result publication bias (Olson et al., 2002).

Despite these limitations, the initial evidence presented in reviewed studies suggests that EMDR is a promising candidate for treating OCD. The six reviewed case studies demonstrated the effectiveness of EMDR in a variety of different individuals coping with OCD. Additionally, the three group studies show that EMDR can be (a) as effective as ERP, (b) enhance the effectiveness of ERP, and (c) more beneficial than an SSRI in treating OCD. Future studies should aim to consolidate this body of evidence with large sample RCTs among clinical samples and strive to enhance the consistency and quality of methodological reporting in publications.

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