ARTICLES

Effects of the EMDR Protocol for Recent Traumatic Events on Acute Stress Disorder: A Case Series

Sarah L. Buydens
Victoria, British Columbia, Canada

Marshall Wilensky
Vancouver, British Columbia, Canada

Barbara J. Hensley
Cincinnati, Ohio

The purpose of this study was to evaluate the effectiveness of the eye movement desensitization and reprocessing (EMDR) protocol for recent traumatic events in the treatment of acute stress disorder. Within weeks of being exposed to an isolated traumatic event, 7 adults diagnosed with acute stress disorder were provided with multiple sessions of the EMDR protocol for recent traumatic events, an extended version of the EMDR therapy standard protocol. In each case, an individual's subjective distress caused by the traumatic events was measured using the Impact of Events Scale-Revised and the goal of alleviating symptoms was accomplished. The positive results suggest the EMDR protocol for recent traumatic events may be an effective means of providing early treatment to victims of trauma, potentially preventing the development of the more severe symptoms of posttraumatic stress disorder.

Keywords: acute stress disorder; early trauma treatment; recent traumatic events protocol; eye movement desensitization and reprocessing (EMDR); case series; treatment outcome

In 1994, the diagnosis of acute stress disorder (ASD) was introduced in the diagnostic manual (*Diagnostic and Statistical Manual of Mental Disorders* [4th ed., DSM-IV]) of the American Psychiatric Association (1994). At that time, it was believed that acute stress reactions were probably a precursor to the development of posttraumatic stress disorder (PTSD; Bryant, Friedman, Spiegel, Ursano, & Strain, 2011). ASD can be diagnosed only during the first four weeks after direct exposure to a traumatic event. Diagnostic criteria for ASD, according to the Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev.; DSM-IV-TR; 2000), are (a) exposed to a traumatic experience; (b) displays at least three acute dissociative symptoms; (c) has at least one reexperiencing symptom; (d) displays marked avoidance; (e) displays marked anxiety or increased arousal; and (f) the disturbance results in clinical distress or impairment.

Recovery From Acute Traumatic Stress and Acute Stress Disorder (ASD)

Although many people recover from trauma over relatively short periods, suffering can be intense. The goal of diagnosing ASD is to facilitate early intervention and prevention of PTSD. There are arguments for and against treating ASD. Not all individuals with ASD require treatment, and most people who develop PTSD did not initially have ASD (Bryant, 2003; McFarlane, 2008; Roberts, Kitchiner, Kenardy, & Bisson, 2009). Nevertheless, most people who have ASD go on to be diagnosed with PTSD (Bryant, 2003; McFarlane, 2008; Roberts et al., 2009).

PTSD can have serious long-term consequences. Untreated, 33% of people who develop PTSD will remain symptomatic for 3 years or longer with an

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increased risk of secondary problems (National Institute for Clinical Excellence [NICE], 2005). Traumatic stress is considered an important risk factor for all psychopathology (Bryant, 2003; McFarlane, 2008) and a case can be made to treat all traumatic stress as prevention of further psychopathologies. On one hand, people who show severe distress after a traumatic event may recover spontaneously, and therefore they do not require therapy. On the other hand, failure to treat ASD could leave individuals with long-term symptoms and at a higher risk for additional problems. E. Shapiro and Laub (2008) state early intervention is preferable because it has the possibility of reducing the development of PTSD and relieving excessive suffering. Ultimately, the decision about whether or not to treat ASD is best made on an individual basis. If the patient seeks treatment, if appropriate within the health care practitioner's practice, treatment may start with psychological first aid and critical incident stress debriefing (CISD).

Psychological First Aid and Critical Incident Stress Debriefing Treatment of ASD

Psychological first aid involves interventions that assist with adaptive coping, such as feeling safer and understanding the initial danger is over, calming and stabilization, connectedness to others, increasing self-efficacy and empowerment, and providing a sense of hope (Solomon, 2008). CISD is a discussion of the clients' thoughts and reactions that is nonevaluative and confidential in conjunction with psychoeducation about coping and stress skills (Mitchell & Everly, 1996, 2000). It is important to acknowledge that CISD may provide closure of a traumatic incident for some people, but it may also be the beginning of treatment for others (Solomon & Macy, 2003). Now, there is neither evidence that CISD can prevent PTSD (Ruzek & Watson, 2001) nor is it intended to treat or prevent PTSD or provide PTSD symptom reduction (Everly & Mitchell, 1999, 2000). Some people may even experience worsening of symptoms after debriefing and, as Solomon and Macy (2003) discuss, this "may not be a failure of this intervention (though inexperienced interveners, inappropriate timing and loosely structured phases may have contributed to a negative outcome) as much as it is a lack of appropriate follow-up" (p. 371). Despite the limitations of psychological first aid and CISD, when traumas occur in a workplace, employers often bring in a health care practitioner to provide CISD to the staff, and many practitioners start therapy with psychological first aid and CISD. In this study, some participants received psychological first aid and CISD while others did not.

Treatment of Traumatic Stress With EMDR

Eye movement desensitization and reprocessing (EMDR) is a psychotherapeutic approach with well-established and recognized efficacy in the treatment of traumatic stress and PTSD (Bisson & Andrew, 2007; NICE, 2005; Substance Abuse and Mental Health Services Administration, 2010). EMDR therapy uses standardized procedures that include a component of bilateral stimuli (e.g., eye movement, taps, tones) to access and reprocess disturbing life experiences such as trauma and the associated stored memories to integrate new more adaptive information (F. Shapiro, 2001). Disturbing reactions to the traumatic event (e.g., thoughts, emotions, body sensations) transform to more adaptive thoughts, emotions, and bodily sensations and are stored in new memory networks. This process is posited to result in a transfer of memories and information from implicit (sensory body experiences) to explicit (cognitive) memory systems and from episodic to semantic memory (F. Shapiro, 2001; Stickgold, 2002, 2008).

If the event is consolidated into a single memory, treatment effects from targeting the critical moment usually generalize to all aspects of the event. This generalization effect may not occur if the trauma occurred within the previous 4 weeks. F. Shapiro (1995) hypothesized that for a period of post-trauma, possibly 2–3 months, the memories may not yet be consolidated into an integrated whole. To address this, she created the EMDR protocol for recent traumatic events. This is an adaptation of the EMDR standard protocol whereby, in the assessment phase, components within the incident are identified (e.g., the sight of the gun, being pushed to the ground) and each aspect is reprocessed and desensitized individually (F. Shapiro, 1995, 2001), allowing processing of an event that has not been consolidated into a whole.

Effectiveness of EMDR With Recent Traumas

Only few studies have been published to date regarding the effectiveness of EMDR with recent traumas and ASD. Of the studies published, the EMDR treatment type and time between trauma and treatment differed. For example, some studies investigated the use of standard EMDR within days or weeks after the traumatic event (Fernandez, 2008; Grainger, Levin, Allen-Byrd, Doctor, & Lee, 1997; Rost, Hofmann, & Wheeler, 2009) and up to 48 weeks after the trauma (Silver, Rogers, Knipe, & Colelli, 2005). One researcher used eye movement desensitization (EMD) within 1 month of the traumatic event (Ichii, 1997); another evaluated a nonstandardized version of EMD (i.e., without

the positive cognition, installation phase, and body scan) within 6 weeks of the trauma (Russell, 2006). F. Shapiro's (2001) protocol for recent traumatic events was used at 2 weeks post-trauma by Wesson and Gould (2009) and within 12 months of the traumatic event by Colelli and Patterson (2008).

Within the studies on recent traumas and ASD, some patients were diagnosed with ASD, some individuals had severe symptoms, and some were treated months after the trauma occurred both with and without diagnoses. All results indicated the effectiveness of EMDR with traumatic stress, and PTSD, although still leaving little evidence for Shapiro's EMDR protocol for recent traumatic events and that protocol's treatment of diagnosed ASD. This is the unique contribution of this study.

Various EMDR Protocols for Recent Traumas

Various EMDR protocols have been developed to treat recent traumatic events and other types of traumas and therapeutic issues. Outlined in the following text are some of the different EMDR treatments for recent traumatic events with descriptions of their research support.

Standard EMDR Protocol. The standard EMDR protocol (F. Shapiro, 1995, 2001) uses a three-pronged approach in that it addresses past events, present triggers, and future-related concerns. As previously noted, there is strong research evidence for the effectiveness of the standard EMDR protocol with traumatic stress and PTSD. Only one study has investigated its use within 1 month of the traumatic incident. Rost et al. (2009) provided standard EMDR with bank employees who had been recently traumatized during robberies and found not only that EMDR was effective but also that it appeared to provide an apparent protective effect, with employees less traumatized during subsequent robberies/traumas.

EMD Protocol. EMD was the original protocol developed by F. Shapiro in 1989, which later evolved in 1991 to the EMDR standard protocol. The EMD protocol was reintroduced in 2004 in the Military and Post-Disaster Response Manual (F. Shapiro, 2004) as the need for a circumscribed emergency intervention became more pronounced. The primary difference between EMD and EMDR is that in EMD, the focus is on the traumatic event initially targeted without looking for other related chains of events. Its use was evaluated by Ichii (1997), who provided EMD within 1 month of the event to two female earthquake survivors who initially reported a strong sense of fear and a high level on the subjective units of disturbance (SUD) scale (F. Shapiro, 2001), and after one session reported an SUD level of zero.

Recent Traumatic Episode Protocol (R-TEP). E. Shapiro and Laub (2008) expanded the elements of the EMDR standard protocol with additional strategies for containment and safety, introducing other procedural concepts to the eight phases of the standard protocol. Tofani & Wheeler (2011) used R-TEP protocol within a month of an episode: a child with chronic illness, a woman with significant loss, and an adolescent with self-harming tendencies. In terms of the traumatic episodes described by these clients, shifts in perception were described.

EMDR-PRECI. EMDR protocol for recent critical incidents (EMDR-PRECI) is a single-session modified version of the protocol for recent traumatic events. It was developed by Jarero, Artigas, and Luber (2011) and is used with disaster survivors up to 6 months after the event. EMDR-PRECI differs markedly from the F. Shapiro's (2001) EMDR protocol for recent traumatic events, by conceptualizing a disaster as an extended event with a continuum of important markers that can extend for months after the original incident. Two clinical trials investigating the effectiveness of EMDR-PRECI showed this protocol to be effective with earthquake survivors (Jarero et al., 2011) and a forensic recovery team (Jarero & Uribe, 2011, 2012); results were maintained at follow-up even though the traumatic stressors continued to occur.

Protocol for Recent Traumatic Events. As previously mentioned, F. Shapiro (1995, 2001) adapted the standard EMDR protocol to address each aspect of an unconsolidated recent traumatic event. F. Shapiro's (2001) protocol for recent traumatic events has been tested in only two studies. Colelli and Paterson (2008) described its effective use within 1 year of the trauma with three individuals traumatized during the World Trade Tower bombings in 2001. Wesson and Gould (2009) provided this protocol to a soldier in active duty 2 weeks after the trauma, with results indicating a positive outcome. The results of these studies are promising and would be further substantiated by future research with a larger number of participants.

Method

This study took place in the offices of two registered psychologists. Seven adults experienced individual traumas and were referred for treatment. Three clients were seen by one registered psychologist and were provided CISD preceding assessments and treatment with the EMDR recent traumatic events protocol. Four clients were seen by the other registered

psychologist and were given assessments and treated with the EMDR recent traumatic events protocol but were not provided CISD. An evaluation of the seven participants was conducted to determine their responses to treatment with the EMDR recent traumatic events protocol.

Participants

Six female participants were victims of different bank robberies, and one male participant experienced a trauma in his work as a warehouse tradesman. All sought psychological services to assist with the symptoms after the trauma. Participants were included in this study if they were treated by the two specific registered psychologists, were seen during the period of August to November 2000, were diagnosed with ASD, and received treatment using the EMDR recent traumatic events protocol. Clients were allocated to the therapist based on the city location of the patient. Fictitious initials have been assigned to the participants to hide their identities.

Instruments

Two instruments were used as measures of symptom severity for all seven participants: the Structured Clinical Interview for *DSM-IV* Axis I Disorders Clinician Version (SCID-CV; First, Spitzer, Gibbon, & Williams, 1996) and Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997). The SCID-CV is a 45- to 90-min structured interview used by clinicians to determine whether patients have a *DSM-IV* axis 1 disorder. The SCID-CV is divided into six self-contained modules, with Module F pertaining to anxiety-related disorders (e.g., PTSD). All modules were completed with the seven patients. Excellent reliability (Lobbestael, Leurgans, & Arntz, 2011) and validity (Shear et al., 2000) have been reported.

The IES-R, an updated version of the original IES, is a 22-item self-report measure designed to assess current subjective distress for any specific life event on a 5-point Likert-type scale (Horowitz, Wilner, & Alvarez, 1979). The IES-R includes seven items related to PTSD hyperarousal symptoms as well as intrusion and avoidance scales, which provide a total subjective stress score. Patients indicate how much they were distressed or bothered during the past 7 days by each "difficulty" listed in direct relation to their traumatic experience. The total score on the IES-R ranges from 0 to 88, and subscale scores can be calculated for intrusion, avoidance, and hyperarousal symptoms. A score of 26 or higher indicates a moderate distress, and a score greater than 44 indicates severe distress. Excellent reliability and validity (Beck et al., 2008) have been reported for the IES-R.

Post-CISD treatment (when applicable) and prior to EMDR treatment, patients were administered the SCID-CV (First et al., 1996) to assess symptoms of PTSD. All patients met criteria and were diagnosed with ASD. A follow-up SCID-CV was not done post-treatment because it was not standard procedure for either psychologist. Post-CISD (when applicable) and prior to EMDR treatment, the patients were administered the IES-R. The IES-R was readministered post-EMDR treatment.

Treatment

The EMDR protocol for recent traumatic events (F. Shapiro, 1995) was used with all seven participants within 7–21 days of their most recent traumatic event. Three clients were provided one individual CISD session within 1 week after the incident. This treatment was delivered shortly after the trauma when initial signs of ASD appeared (Young, 2006). The CISD was conducted individually by the assigned psychologist with the intention of lessening acute symptoms, sharing stress management skills, and assessing clients' need for further treatment. CISD was conducted because this was standard practice for the psychologist. Following CISD, the three participants were assessed with the SCID-CV and IES-R, diagnosed with ASD, provided EMDR recent traumatic events protocol treatment, and reassessed with the IES-R. The other four participants in the study were seen by the other assigned psychologist for assessment with the SCID-CV and IES-R, were diagnosed with ASD, provided EMDR recent traumatic events protocol treatment, and reassessed with the IES-R. Standard preparation tasks (e.g., explain theory, create a calm place) were attended to prior to the first EMDR treatment session. Sessions lasted between 1 and 2 hours and were delivered once a week.

The EMDR Protocol for Recent Traumatic Events

The following describes the procedures used in the EMDR protocol for recent traumatic events. Starting with the most disturbing moment, and then targeting the remainder of the segments in chronological order, each aspect is treated and processed as a separate memory, including a separate negative cognition (NC) for each segment. Each target is measured on a baseline scale to identify how disturbing the memory is for the client. The client identifies NCs, feelings, images, and bodily sensations associated with

the event. The client indicates a rating on the SUD scale (Wolpe, 1958), where 0 = *neutral disturbance* and 10 = *worst imaginable*. A desired positive cognition (PC) is identified and its strength is determined on the validity of cognition (VOC) scale, where 1 = *completely false* and 7 = *completely true* (F. Shapiro, 2001). Desensitization of the disturbing event occurs using bilateral stimulation (BLS). When full desensitization of the segment has been achieved, the clinician moves on to installing, assessing, and strengthening the PC. The client is then asked to visualize the entire event from beginning to end (with eyes closed). Each disturbance that arises is targeted using the standard procedure, including the installation phase but not the body scan. This process is repeated until the client is able to visualize the entire event without disturbance. After all segments of the memory have been treated and all targets have been addressed, the clinician concludes with a body scan and processes any stimuli. Treatment finishes with the future template procedure.

Case Descriptions

Client 1

Ms. A was a teller at a bank and had previously been in six bank robberies for which she had not received psychological treatment. During the robbery, police from the canine team were walking by the window and observed the robbery in progress. One officer fired his weapon through the window and wounded one of the robbers. The robbers ran from the bank but were arrested after a chase. During the robbery, Ms. A hid under her desk where she could hear screams from others and verbal threats from the robber. The worst part of the robbery was being confined to a small area under her desk because it reminded her of the abuse she suffered as a child by her alcoholic father.

Three weeks following the trauma, Ms. A had her first session during which her assessments were conducted. In her first session, the assessments and preparation for EMDR were conducted. Her score on the IES-R was 53 and her score on the SCID-CV revealed she was suffering from ASD. She received the standard preparation for EMDR treatment by the psychologist (see Table 1).

The EMDR recent event protocol was conducted in the 2nd to 10th sessions that took place over 3 months. Sessions lasted from 1 to 2 hours. In her narrative account of the robbery, Ms. A described hearing screaming nearby, the robbers shouting "On the floor!"; a black figure near a colleague's desk, diving under her desk, more screaming, the thought "was he coming for me?"; "listening like forever from under the desk"; a foot hitting a garbage pail, three gunshots, screaming "Why did you point your gun at me?!"; a police radio, sticking her head out, standing up; and lots of emotional feeling. The worst element was the silence while hiding under the desk, followed by the gunshots and the time right after the event. Her initial VOC was 2.5 and SUD was 7, and her NC was "I'm not safe" and her PC was "I'm safe."

During EMDR processing of the time under the desk, the client went to a childhood memory of her father locking her in a closet, which had also come back to her during the robbery. In subsequent sessions, she processed her childhood experience together with

TABLE 1. Overview and Pre-Post Treatment Evaluations

Name	Gender	CISD	IES-R Pre-treatment, Mean = 65, *SD* = 14.26	IES-R Post-treatment, Mean = 19, *SD* = 14.29	Percentage difference in IES-R scores, Mean = 71.8%	Number of EMDR sessions, Mean = 5.14, *SD* = 2.34	Trauma
Ms. A	Female	No	53	19	64.2%	10	Bank robbery
Mr. B	Male	No	83	8	90.4%	6	Found dead body
Ms. S	Female	No	54	16	70.4%	5	Bank robbery
Ms. E	Female	No	68	41	39.7%	3	Bank robbery
Ms. C	Female	Yes	47	3	93.6%	4	Bank robbery
Ms. J	Female	Yes	68	9	86.8%	4	Bank robbery
Ms. R	Female	Yes	82	35	57.3%	4	Bank robbery

Note. CISD = critical incident stress debriefing; IES-R = Impact of Event Scale-Revised.

the robbery events culminating in an SUD of 0, an installation of PC of "It's over," and a clear body scan. On follow-up, she had transferred to a new branch of the bank and was successfully learning a new financial system. In the last session, the IES-R was repeated and her score was 19.

Upon returning to work, Ms. A was the victim of another bank robbery, following which she returned for further psychotherapy, 4 months after the original robbery for which she received treatment. An IES-R was performed prior to further treatment and her score was 20. Ms. A had one more EMDR session for the eighth robbery, felt better, and ended psychotherapy. No follow-up IES-R was conducted at the time.

Client 2

Mr. B, a 32-year-old man, worked as a warehouse tradesman and developed a father-like relationship with the supervisor. He came in to work one morning to find his supervisor dead with his head blown off. The horror of this event was further complicated by the fact that the supervisor had him make a special tool for him the day before. This tool, a pushrod, was used to push the trigger on the rifle.

Mr. B sought psychotherapy a week after the trauma. In his first session, the assessments and preparation for EMDR were conducted. His score on the IES-R was 83 and his score on the SCID-CV showed he was suffering from severe ASD. He received the standard preparation for EMDR treatment by the psychologist.

Over 5 weeks, the EMDR recent event protocol was conducted in the second to sixth sessions. Sessions lasted from 1 to 2 hours. Mr. B gave a narrative account of the event, identifying the moment of realization about the origin of the pushrod as the most disturbing aspect. There was evidence of peritraumatic amnesia with gaps in his account. His NC was "I'm doomed" and his PC was "I can be ok" with a VOC of 1 and a starting SUD rating of 9. The SUD rating went down to 8 in the first session using EMDR. Over the course of the next five sessions, the SUD on the pushrod decreased and his NC shifted to "I'm a failure" then to "He fucked me" with the SUD eventually getting to 0. In the course of the processing, memories of his mother's death, other betrayals, and previous job failures emerged as channels. He was able to give a full account of the event. His closing PC was "I'll get through now" and he was able to look for other work. In the last session, the IES-R was repeated and his score was 8.

Client 3

Ms. S, an East Asian women in her early 30s, was an employee in a bank that was robbed. After serving a customer, she heard a loud noise and realized a robbery was in progress and the customer she just helped was critically shot. During the robbery, a knife was held to her and another person was shot.

Ms. S sought psychotherapy 21 days after the robbery. She indicated that there were other significant stressors in her life around the time of the robbery. Her father had had a heart attack and she had been diagnosed with multiple sclerosis the previous year. For support, she had good friends, a good boyfriend relationship, and was receiving massage therapy. She suffered from peritraumatic amnesia, complained of poor concentration, had no sense of time, and had a distorted sense of her body. In her first session, a SCID-CV, IES-R, and standard preparation for EMDR was conducted. The SCID-CV showed she had ASD and her IES-R score was 54.

She had five EMDR recent event protocol sessions over 5 weeks, with sessions lasting 1 to 2 hours. In the first session, her NC was "I have no control" and her PC was "I have some control," with a VOC of 3 and an SUD of 5.5. In her narrative of the robbery, she described walking around the front of her desk to help a customer (who was subsequently wounded), returning to her seat and seeing an African American man who was "looking right at me through the glass," there was eye contact and then she saw a knife, heard him shout "Get down, get down!" The next thing she remembered was the robber holding the knife up to her face, and she thought, "don't hurt me." She got up slowly, was pushed into another room, then the robber seeming "to not be happy with me" and got another worker, "I looked up" and he "pushed my head down." I saw him walk back and forth, heard the other robber talk about money, and heard "our time is up." I looked up to see one robber run out and the other robber made eye contact with me again while I thought "why is he looking at me?" I heard shots, screaming, it all seemed unreal. I heard "it's the police," saw a uniform, got up, and saw the robber was on the ground.

The worst element processed first was the robber "running at me with the knife." The next worst element processed was the gunshots and then the screaming. At the end of the third processing session, the SUD reached 0, the VOC was 6–7, and Body Scan was positive and described as a "whoosh." After the fourth processing session, IES-R = 16. She had five EMDR recent event protocol sessions over 5 weeks, with sessions lasting 1 to 2 hours. In her last session, the

IES-R was repeated and her score was 16. Ms. S then continued with EMDR therapy for 12 more sessions to work on her autoimmune disease, difficulty she had with her manager, hearing news stories of the event, preparation for the criminal trial, and police interviews.

Client 4

Ms. E, a middle-aged women and recent immigrant from Eastern Europe, was a patron in a bank that was robbed. The day after the robbery, Ms. E's sister died unexpectedly. Two days later, she received an unrelated obscene and terrifying prank phone call.

Ms. E sought psychotherapy 21 days after the robbery. Upon entering psychotherapy, she was experiencing intense nightmares and flashbacks to the robbery. She had an increased startle response and experienced symptoms such as sweating, difficulty breathing, nausea, and heart palpitations. In her first session, the SCID-CV, IES-R, and standard preparation for EMDR was conducted. Her IES-R score was 68 and the SCID-CV revealed she had ASD.

She had two EMDR recent event protocol sessions lasting about 1 to 2 hours. The worst element in her narrative was seeing the robber pointing a gun. She had become afraid to go to her bank and was triggered by television accounts of the event. Her initial NC was "I'm in danger," and PC was "It's bad timing," with an SUD of 6. By the end of the sessions, she had an SUD of 0 and her PC was "It's over." During treatment, she became more comfortable at the bank and did not change branches. The client prematurely terminated treatment to return to her employment. In the last session, an IES-R was conducted again and her IES-R score was 41.

Client 5

Ms. C, a bank teller, was approached by a robber and threatened. This was her first robbery and she struggled to remember what the protocols were during a robbery. She sought psychotherapy within a week of the incident. She received an hour session of CISD by the psychologist. In this session, she reported symptoms of dissociation, being on automatic pilot, and feeling disoriented and confused. She suffered from nightmares, flashbacks, and was hypervigilant. In her second session, the SCID-CV, IES-R, and standard preparation for EMDR were conducted. The SCID-CV indicated she had ASD and her IES-R was 47. She had two EMDR recent event protocol sessions, and in the last session another IES-R was conducted and her score was 3.

Client 6

Ms. J, a middle-aged woman who worked at a bank, was a victim of a bank robbery where people were shot. A week after the incident, Ms. J sought psychotherapy. She had 1 hour of CISD by the psychologist, during which she spoke about flashbacks, psychosomatic complaints, and an increased startle response. Since the day of the robbery, she had been avoiding things that reminded her of the incident. In the second session, an SCID-CV and IES-R were conducted as well as the standard preparation for EMDR treatment. Prior to treatment, her IES-R was 68 and the SCID-CV revealed she had ASD. She had two EMDR recent event protocol sessions lasting 1 to 2 hours. In the last session, another IES-R was conducted and her score was 9.

Client 7

Ms. R, a middle-aged woman and a bank employee, was a victim of a bank robbery. She sought psychotherapy treatment 10 days after the incident. Ms. R had an hour-long CISD session by the psychologist. In this session, she complained of flashbacks, gaps in her memory, and dissociation. In her second session, an SCID-CV and IES-R were conducted as well as the standard preparation for EMDR. Her SCID-CV indicated she had severe ASD and her IES-R score was 82. She had two EMDR recent event protocol sessions lasting 1 to 2 hours. After the four sessions, another IES-R was performed and her score was 35. Ms. R expressed great relief from her symptoms and reported feeling "back to normal again" and terminated psychotherapy.

See Table 1 for a summary of the treatment for the seven participants.

Discussion

Effectiveness of the Protocol

The goal of this study was to investigate the effectiveness of the EMDR protocol for recent traumatic events in the treatment of ASD. As noted earlier, very few studies have evaluated EMDR treatment for ASD. In this case study, seven adults diagnosed with ASD received the EMDR recent traumatic events protocol (mean number of sessions = 5.14) within 7–10 days of the traumatic event. The traumatic events were related to bank robberies and the suicide of a colleague and involved clients of various ages, ethnicities, backgrounds, and circumstances. The EMDR protocol for recent traumatic events (F. Shapiro, 1995) was used to

recall and process the trauma. Current traumas and triggers were reprocessed and then positive future templates were installed.

Results showed an average reduction in IES-R scores of 71.8%, with scores decreasing from a mean of 65 ($SD = 14.26$) at pretreatment to a mean of 19 ($SD = 14.29$) at posttreatment. At pretreatment, several clients were unable to return to the worksite where the trauma had occurred; after treatment, they were able to resume their normal lives. As is not uncommon, participants showed a range of responses (see Table 1), but all reported a benefit from treatment. The variation of response may be caused by various factors unmeasured in this study such as individual history, personality factors, life circumstances, and health.

It is interesting to note the possible enhancement of resilience experienced by Client 1, Ms. A. When she initially sought treatment after the bank robbery, her IES-R score was 53, in the severe range. After completing treatment, her score dropped to 19. Then 1 month later, she was a victim in another bank robbery, but this time, her IES-R score was only 20, and she required only one treatment session to get back to normal. The progress made in the sessions possibly contributed to her being less traumatized the next time she was involved in a robbery; in her subsequent EMDR session, material was cleared quickly and efficiently. Such findings were also reported by Rost et al. (2009) in their study of bank robbery victims treated with standard EMDR. An increase in resilience was also reported in a group of children treated with group EMDR (Zaghrout-Hodali, Alissa, & Dodgson, 2008).

Treatment of Recent Traumas

The EMDR protocol for recent traumatic events was developed as a psychotherapy intervention to reduce or eliminate the symptoms resulting from recent unresolved traumatic memories (F. Shapiro, 1995, 2001). EMDR's theoretical model views presenting symptoms as resulting from disturbing past events that have not been adequately processed and that have been encoded in a state-specific and dysfunctional form (F. Shapiro, 2001). The goal of EMDR is to transform dysfunctional memories into adaptive resolution, fostering psychological health. This is accomplished through desensitization and reprocessing of the disturbing material, using bilateral stimulation and an associative process that links the dysfunctional material with more adaptive information, thus transforming the original memory.

F. Shapiro (2001) has suggested that memories of recent events often exist as a sequence of disconnected moments or aspects, and may not be integrated or consolidated into a cohesive memory. This can result in the type of disconnected narrative such as that of Client 3, Ms. S, who described several discrete independent disturbing moments. In the protocol for recent traumatic events, each distressing moment or aspect is targeted individually using the full EMDR protocol. Integration is facilitated by the EMDR procedure that elicits associated memories and information, often producing a spontaneous linking of the chronological elements; integration is further enhanced by the replay of the memory "video" during this process.

Occasionally, this associative process may elicit memories of historical traumatic events that share some similarity with the recent trauma, for example, a fear of dying or an experience of being constrained. This was the experience of Client 1, Ms. A. Although processing the memory of hiding under her desk during the bank robbery, she recalled the frightening childhood memory of her father locking her in a closet. Working through these associated memories is part of the treatment, and F. Shapiro (2001) cautions that clients should be informed of the possibility that memories may be elicited and treatment may be prolonged because of these types of associations. When memories of earlier events are recalled, so too are core internalized messages such as "I am not lovable" or "I am worthless." Processing these thoughts and memories can give clients reprieve from painful past experiences, paving the way for current traumatic events to be resolved.

Possible Benefits of Treating Recent Trauma

People exposed to the same trauma may develop various psychological and/or somatic disorders soon after the event. Some people may recover on their own, some may be plagued with symptoms indefinitely, whereas others may not develop any symptoms at all from the traumatic event. In this study, all participants reported severe symptoms, reflecting in a diagnosis of ASD and high scores on the IES-R. It is not possible to determine if the participants in this study would have developed PTSD if their symptoms remained untreated and severe. However, research suggests that all were at some risk for a more protracted impairment. It is also not possible to know without a control group whether these symptoms would have ameliorated with the passage of time. However, it is apparent, with a mean of 5.2 sessions, that the treatment produced a fast recovery, allowing the clients to resume normal lives.

Limitations of the Study

A limitation of this research is that the data was gathered from a small group of individuals in two psychotherapy practices in Canada, with clients who sought psychotherapy because of their distressing symptoms. As such, the results cannot be generalized to a broader population. In addition, the results may not apply to adults who do not self-select to attend psychotherapy. Furthermore, without a control group, it is difficult to know if recovery would have occurred naturally over time without the EMDR protocol for recent traumatic events, therefore it is not possible to make any definitive decisions about causation. The findings reported arise from the use of case-study methodology, an uncontrolled study, therefore it cannot be ruled out that the effects may have been caused by other variables such as the passage of time or therapist attention or the initial CISD treatment.

Another limitation is that no measures were taken pre–post CISD treatment, so it is not possible to determine what effect the single session of CISD had on participants' symptoms. Furthermore, the sequencing of treatments makes it difficult to determine whether it was the combination of CISD and EMDR that contributed to the outcomes experienced by the three of the participants. However, it appears that those participants who received CISD showed a similar response to the EMDR protocol for recent traumatic events as those who did not receive CISD. Future research is needed to determine what advantage, if any, is found in providing CISD prior to the EMDR protocol.

It was not possible to follow-up with participants to determine the long-term effects of the EMDR recent traumatic events protocol. It is unknown if the reduction in IES-R scores lasted months or years. The results of this study would have been strengthened by studying the longitudinal effects with follow-up assessment.

It is also noteworthy to mention that six of the seven participants in this study were females. Further studies with a great number of male participants are needed to understand if there are gender differences in treatment outcomes.

Recommendations for Future Research

It would be beneficial for future researchers to investigate whether the CISD treatments altered the IES-R scores, if the time that elapsed between CISD and EMDR recent traumatic events protocol treatment impacted the results, and if the amount of time between when the trauma happened and the application of the EMDR recent traumatic events protocol treatment impacted the results. These results would have implications on the case studies discussed in this article. Also, because this study was not randomized, other recommendations for future research include randomizing participants to receive either the EMDR recent traumatic events protocol or receiving treatment after the first month post-trauma, and then comparing the results. This would determine whether the later treatment group developed PTSD or whether their symptoms improved naturally and whether and how the recent traumatic events protocol was effective. Future research may look to identify the complexities involved in an individual's reaction to trauma as well as the response to treatment. Looking at the relationship between factors may provide a valuable opportunity to see if there are similarities, which could have implications on treatment.

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Correspondence regarding this article should be directed to Sarah L. Buydens, PhD Candidate, Registered Clinical Counsellor, #102-1022 Pandora Ave., Victoria, BC, Canada V8V 3P5. E-mail: BuydensPsychotherapy@gmail.com