Eye Movement Desensitization and Reprocessing (EMDR):

Rebuilding Assumptive Worlds

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Running head: EMDR

Eye Movement Desensitization and Reprocessing (EMDR) is a treatment methodology that can facilitate the adaptive integration of traumatic information. Controlled studies have documented its efficacy for single-episode PTSD. However, there is still debate and controversy over how it works and the essential components. The eight phases of EMDR are described and a case is presented that illustrates the utilization of EMDR in the treatment of a traumatic event. EMDR is a therapeutic approach that supplements a clinician's ability to help clients process traumatic material, complicated emotions, dysfunctional elements of grief and other psychological problems. The method offers a promising avenue for the resolution of trauma and distressing memories.

Introduction

Eye Movement Desensitization and Reprocessing (EMDR) is a treatment methodology that can facilitate the adaptive integration of traumatic information. The purpose of this article is to describe EMDR and provide an example of its application to the treatment of trauma. Dyregrov (1993a) described the method in this journal back in 1993 and gave some clinical examples of its utility in the trauma area. Since then controlled studies of the effectiveness of EMDR on single-trauma PTSD have demonstrated that after the equivalent of two to three 90 minute sessions (i.e., 4.5 hours), 84-100% of the single-trauma subjects no longer met criteria for PTSD at post-test (Marcus, Marquis, & Sakai, 1997; Rothbaum, 1997; Scheck, Schaeffer, & Gillette, 1998; Wilson, Becker, & Tinker, 1995, 1997).

The method's claim of treatment success, and its rapid spread throughout the world has instigated a wealth of critical research and debate (DeBell & Jones, 1997; Rosen, Lohr, McNally, & Herbert, 1998; Shapiro, 1996a, Shapiro, 1996b). Although the critical elements of the procedure still need dismantling, and the theoretical rationale for EMDR need more documentation and probably revisions, the amount of research documentation is now formidable. Interest seems to be moving from "does it work?" to "how does it work". Spector and Read's review article (1999) concludes that EMDR is an effective psychotherapy, but EMDR's relative efficacy in comparison to behavioral exposure therapies has yet to be established; the role of eye movements or other bilateral

stimulation is controversial, and there is not sufficient research to know whether the theoretical model of EMDR is valid. More thorough reviews of the EMDR research and critiques can be found in Muris and Merkelback (1999), Devilly and Spence (1999), and Shapiro (1999). As clinicians we know that no method works all the time. Based on the present documentation of the efficacy of the method, we advise clinicians to get appropriate training and try out the method for themselves.

The theoretical model

The model underlying EMDR is the Accelerated Information Processing model (Shapiro, 1991, Shapiro, 1993a, Shapiro, 1993b, Shapiro, 1993c, Shapiro, 1994a, Shapiro, 1994b, 1995). This model posits an innate information processing system that is physiologically configured to facilitate mental health in much the same way the rest of the body is designed to heal itself when injured (Shapiro, 1995). When operating appropriately, this system takes the perceptual information from a traumatic event to an adaptive resolution - useful information is stored with appropriate affect and is available for future use. The physiological and emotional arousal stemming from a traumatic event may disrupt the information processing mechanism. This can result in the information taken in during the time of the trauma (e.g. disturbing images, thoughts, sensations, beliefs, and the like) becoming stored in disturbing, excitatory, state-specific form. The blocked processing prevents the traumatic information from progressing through the normal steps of adaptive integration. Nightmares, flashbacks, intrusive thoughts and sensory imagery, and other symptoms of PTSD may result from continual activation of this dysfunctionally stored

information by internal or external stimuli, or perhaps because of repeated unsuccessful attempts of the information-processing mechanism to complete its own processing. Since the non-adaptively stored trauma is functionally compartmentalized from the appropriate information, the perceived event cannot be integrated into one's assumptive world.

EMDR organizes the memory selected for processing, catalyzes the information processing system, maintains it in a dynamic state, and facilitates the processing of the information surrounding the event. Processing is defined as the forging of the associations and connections required for learning to take place so the traumatic information can be "adaptively resolved" (Shapiro, 1999). Adaptive resolution refers to the client (a) being able to glean useful information from the event (e.g., take appropriate cautions under certain circumstances or around certain people) and discard what is not useful (e.g., negative sensations, irrational cognitions, etc.), (b) experience and manifest appropriate affect in relation to the event, (c) acquire the capacity to effectively guide his/her future actions (Shapiro, 1999). Reprocessing the dysfunctional information enables the client to progress through the appropriate stages of affect and insight regarding such issues as (1) appropriate levels of responsibility, (2) present safety, (3) the availability of future choices.

EMDR is not a short cut to resolution. After a traumatic incident, including significant loss, people have been found to face obstacles in the recovery process, i.e., there are traumatic images from a death that prevent a person from proceeding in their grief work (Dyregrov, 1993b; Pynoos, 1992). Such intrusive symptoms result from dysfunctionally

stored information that is unable to process, (Herman, 1992; van der Kolk & Fisler, 1995). By processing the dysfunctionally stored information, EMDR allows the information to move toward adaptive resolution. Hence, rather than skipping tasks in the recovery process, EMDR enables a natural progression.

EMDR is not a "stand alone" method but an approach that needs to be integrated within an overall treatment framework. A person may not have sufficient information to resolve the trauma. In other words, schemas, or assumptive worlds, may be narrow or rigid, and not contain the information needed to resolve the trauma. The person must have the necessary information in their schemas in order for the dysfunctional information to be assimilated and accommodated into existing schemas. If a person does not have sufficient information to conceptualize the event in a realistic way therapy must first take the course of assisting the client in gaining relevant information. The victim does not have to totally believe the information, only have it available. For example, victims often blame lame themselves for the crime. A person may believe they should have been in control, seen it coming, been able to influence the situation into another outcome, etc. Even though a person can conceive of the notion that the control was in the hands of the perpetrator, and not with them, they may emotionally not believe this. People say, "I know it was not my fault, but it feels like it is". EMDR can assist the connection between the adaptive information and dysfunctionally stored information to facilitate integration.

A person may not have sufficient ego strength to process the dysfunctionally stored information. During EMDR, there can be an intense reliving of the event. The client has to have sufficient inner resources to deal with the emotional impact. Therefore, assessment of functioning, history taking, teaching of relaxation and safe place exercises, building of internal and external resources, may be necessary before EMDR is initiated. Such steps are built into the EMDR protocol.

The generic therapeutic protocol underlying comprehensive EMDR treatment includes a "three-pronged" approach subsequent to appropriate therapeutic stabilization and client preparation (Shapiro, 1995). The client is first engaged in, a) processing the past experiences contributing to present dysfunction, b) processing present triggers that elicit present disturbance, and c) incorporating positive patterns of behavior for future adaptive actions. Hence, after processing past memories and present triggers that have prevented the client from learning adaptive patterns, the clinician needs to assess whether the client has the skills and behaviors necessary for adaptive functioning, and provide appropriate information and learning experiences.

An eight-phase treatment approach

EMDR is currently an eight-phase treatment approach where the eye movement itself is only a small part of the method. EMDR undoubtedly includes a number of elements that could be viewed as "nonspecific" factors", such as therapeutic alliance and expectancy (Shapiro, 1999). The first phase is History Taking. It must first be determined whether the client is suitable for EMDR treatment because the reprocessing of traumatic material

may precipitate intense emotions. The client's ability to deal with high levels of disturbance, personal stability, and life constraints are evaluated. If the client is determined appropriate for EMDR treatment, the clinician obtains the information needed to design a treatment plan. The clinician evaluates the entire clinical picture, including the dysfunctional behaviors, symptoms, and characteristics that need to be addressed. The clinician then determines the specific memories that need to be reprocessed, including events that initially set the pathology in motion, present triggers that stimulate the dysfunctional material, and the kinds of positive behaviors and attitudes important for adaptive future functioning.

The second phase is Client Preparation. This involves establishing a therapeutic alliance, explaining the EMDR process and its effects, dealing with the client's concerns, and teaching the client relaxation techniques for coping with high levels of emotions. Informed consent about the possibility of intense emotions being evoked is obtained. The preparation phase also includes briefing the client on the theory of EMDR, the procedures involved, and explaining what can realistically be expected.

The third phase is Assessment. In this phase the clinician identifies the components of the target to be treated and takes baseline measures before reprocessing begins. The client is asked to select the image that best represents the memory. Then the therapist assists the client in identifying the negative cognition that expresses the dysfunctional, negative self-attribution related to participation in the event. Then, a positive cognition or a more rational, realistic, and empowering self-assessment is identified. While utilized

later to replace the negative cognition in the installation phase (phase five), the initial purpose of the positive cognition is to provide a therapeutic direction. To provide a baseline measurement, the client is asked to report how valid the positive cognition feels on a seven point Validity of Cognition (VOC) Scale, with 1 being it feels totally false and 7 being it feels totally true.

The client and therapist also explore the emotions and physical sensations associated with the traumatic experience. The client is asked to rate the intensity of the emotion on a 10 point Subjective Units of Disturbance (SUD) Scale, with 0 being neutral and 10 being the worst it could be, to provide a baseline from which to assess changes during the procedure.

The next three phases have to do with the accelerated processing of information. During these phases there is simultaneous remediation of negative affect, cognitive restructuring, and the generation of insights that can guide the client in the future. The individual phases are designated according to the elements that are used to determine treatment effects. For instance, "Desensitization" uses the Subjective Units of Disturbance (SUD) Scale, "Installation" uses the Validity of Cognition (VOC) Scale, and the "Body Scan" (where the client is asked to scan their body for sensations) uses the evaluation of the body sensations. However, all treatment effects are viewed as byproducts of accelerated information processing. Bilateral stimulation such as sets of eye movement (where the client tracks the clinician’s fingers back and forth across their visual field), alternate taps on the client's palms, or the therapist snapping his or her fingers alternately on each side

of the client's head, are utilized to stimulate information processing according to appropriate protocols.

The fourth phase is Desensitization. This phase focuses on the client's negative affect with clinical effects measured by the SUD Scale. While the client holds in mind the visual image, the negative cognition, and the sensations associated with the image, processing is activated during a focused clinician/client interaction involving sets of eye movement (or other stimulation) until the SUD level is reduced to 0 or 1, or higher if that is appropriate to client circumstance.

Phase five is Installation, where the positive cognition is paired with the memory. After the distress level has dropped to a 0 or 1 SUD Scale, the focus becomes enhancing and strengthening the positive cognition identified earlier (or a more appropriate cognition that may have arisen spontaneously) as the replacement for the original negative cognition. Clinical effects are evaluated on the basis of the seven point VOC Scale. This phase is complete when the positive cognition feels valid in relation to the incident, that is; the cognition reaches a VOC rating of 6 or 7 (completely true).

Phase six is the Body Scan. The client is asked to hold in mind both the target event and the positive cognition and scan their body for residual tension in the form of body sensation. Congruent with the work of van der Kolk and Fisler (1995) body sensations may indicate that additional information is dysfunctionally stored. Upon adequate

processing, usually the tension will simply resolve, but not uncommonly additional targets may be revealed.

Phase seven is Closure. The client must be returned to a state of emotional equilibrium at the end of the session, whether or not the reprocessing is complete. Relaxation and other coping skills learned during the Preparation phase can be utilized when the client is experiencing discomfort. The client is briefed as to the possibility of other memories, feelings, or images emerging as the material continue to process between sessions. The client is asked to keep a journal or a log so that what comes up may be discussed in the next session.

Phase eight is Re-evaluation. In the next session, treatment results are reviewed to ensure complete treatment effects. The log is examined and the client is asked to reaccess the material previously worked on to see if there is any reverberations of the already reprocessed information that need to be addressed.

Application of the method

Given that EMDR is utilized to process dysfunctionally stored information, it is applicable to a wide range of disorders. Unless chemically or physically based, it is assumed that symptoms result from past learning situations (Shapiro, 1995). The clinician utilizes his or her clinical framework to identify the past memories and experiences underlying present symptoms. EMDR can then be utilized to reprocesses these memories, process present triggers, and incorporate adaptive patterns of behavior

for the future. For example, one component of a client's depression or anxiety disorder may be the learned belief that one is inadequate and an unworthy person. During history taking, past learning experiences underling the dysfunctional self-beliefs are identified. This may include pivotal parent-child interactions, school experiences, or interactions with friends, etc. After appropriate stabilization and preparation, these memories, and present triggers, can then be processed with EMDR. EMDR is not a substitute for the clinical procedures utilized to treat a disorder, but an addition to the therapeutic framework and treatment methodology.

Although accelerated information processing is hypothesized as an important underlying mechanism of EMDR, several hypotheses have been proposed to explain how EMDR works to mobilize the rapid processing cognitive and emotional material. For example, reciprocal inhibition where emotional distress is paired with a compelled relaxation response has been offered by Wilson, et. al. (1996). There may be a reduction in neurological abnormalities in traumatized persons following EMDR as shown on SPECT scans of the brains for these subjects (Levin, Lazrove, & van der Kolk, 1999). Another mechanisms could be the suppression of avoidance by an optimal range of distraction stimuli, allowing traumatic memories to be processes (Shapiro, 1999). Other mechanisms that may contribute to the clinical effects of EMDR include exposure, synchronization of memory components, guided imagery, and cognitive restructuring (Shapiro, 1999).

EMDR is not a rigid protocol but a highly interactive procedure individualized for each client. Competent clinical skills and knowledge is needed for the successful utilization of EMDR. Identifying appropriate negative and positive cognitions is an exercise in case formulation. Knowledge of personality dynamics and psychopathology are necessary for the therapist to identify the beliefs and self-attributions underlying symptoms. Establishing rapport, eliciting a complete history, assisting the client in accessing traumatic memories, and steering the EMDR process takes a strong clinical background.

Use of EMDR to "correct" violated assumtions

Trauma can also be conceptualized as the contradiction of basic world assumptions (Janoff-Bulman, 1992). The basic assumptions about the world and self provide a basis to organize one's experience and provide a stable conceptual system that enables psychological equilibrium in an ever-changing world (Janoff-Bulman, 1992). Traumatic events may violate the three fundamental assumptions about the self and world: (1) the world is benevolent; (2) events in the world are meaningful; and (3) the self is positive and worthy (Janoff-Bulman, 1992). A traumatic event contradict a person's basic assumptions about the world and one's self, shattering the foundation that makes the world safe and predictable, and disrupts one's sense of control and efficacy (Janoff-Bulman, 1992; Everly, 1995; Solomon, 1995; Rando, 1993). "The tragedy is not supposed to happen - not to me. I am supposed to be control, so it has to be my fault. I am a worthless person or this would not have happened." The inability to integrate the traumatic information into one's assumptive world may result in intense feelings of vulnerability, helplessness, and low self-worth and efficacy. EMDR can facilitate the

assimilation of the trauma into the assumptive world and the accommodation of the assumptive world of the traumatic event, as illustrated in the following case example.

A case example

A police officer that was a hostage negotiator was called to duty to deal with a situation where a young man with a psychiatric history had taken his girl friend and his best friend hostage. After several hours of negotiation, the hostages were released. The hostage taker was going to come out, and the officer went to meet him. As the officer got near, the teenager changed his mind, asked to be shot, and started to bring his rifle about. The officer was able to grab hold of the barrel, and hold it steady. He did not want to jerk it away and have the gun inadvertently fire. The young man deliberately put his head on top of the barrel and managed to pull the trigger. The officer heard a loud blast and was blinded by blood and body tissue. The gunman had killed himself. On leaving the scene, the officer saw the gunman's mother and brother, and perceived them looking at him as if he had let them down.

For the next three months the officer had nightmares and flashbacks concerning the incident. He was depressed, had difficulty sleeping, and his functioning was adversely affected. He felt the death was his fault; there must have been something else he could have done to prevent the tragedy. He felt he was a failure and inadequate, and questioned whether he should remain in law enforcement. As described above, these situations are not supposed to happen. The officer had always felt in control and previous hostage situations had always ended with nobody getting hurt. He blamed himself for the

incident and felt inadequate. The officer had several sessions of psychotherapy with little symptom remission and was referred for EMDR.

After two sessions of assessment, and talking through the incident, EMDR began. The initial image that represented the worst part was the body of the gunman. The negative cognition was “It is my fault”. The positive cognition was “I did the best I could”. The predominate emotion was guilt. After an emotional processing, the officer was able to realize that the gunman initiated the sequence of actions that led to the death, including deliberately committing suicide. The officer had wondered why he had not taken the gun away or had done something different to prevent the suicide. During the processing he realized he had to grab the gun because the suspect was getting out of control. The officer grabbed the gun and held it steady and avoided jerking it away so there would be no accidental discharge while controlling the situation. This was a legitimate tactic to the officer and he realized he was not at fault if the gunman deliberately put himself on top of the gun. He had indeed done all he could. The positive cognition, “I did the best I could” was installed.

This example illustrates the officer’s violated assumption that he is always in control. The result of the processing was a more objective, realistic perspective in realizing why he did what he did, and that he was not responsible for the actions of the suicide victim. EMDR results in the client taking an appropriate level of responsibility, not absolving a person from responsibility. The officer who had previously been blaming himself for not

having control was now able to differentiate what he was in control of and what was beyond his control.

The next session was two weeks later. The treatment gains of believing the situation was beyond his control were stable, but he still experienced distress over the incident. He was haunted by the look in the suspect's eyes when he grabbed the gun, and his inability to control the situation. The image targeted was the suspect's face as the officer grabbed the gun, the negative cognition being, "I'm helpless", the positive cognition being, "I can exercise control", with emotions of fear and guilt. Upon processing, strong feelings of fear came up, the fear he had experienced during the incident. The officer believed he was going to die. To save his life and to keep others safe, the officer grabbed the gun. When these emotions were processed, the officer verbalized that the situation felt over. He had never felt he was going to die before, and was not consciously aware of the level of fear he had experienced. Now, the situation felt over and in the past. Further, he realized he had exercised appropriate control in the situation and dealt with the danger to himself.

In this session, issues of present safety surfaced. EMDR led to the reassociation of dissociated fear. His dissociated fear had prevented him from realizing why he did what he did, resulting in guilt and self second-guessing. Upon processing the fear, the situation could be placed in the past with the realization that he had acted to save his life, had reacted appropriately, and the situation was over and in the past. Indeed, a traumatic experience can be timeless (van der Kolk & Fisler, 1995) because the dysfunctional

information is re-experienced in the present when it is triggered. After processing the dysfunctionally stored information, the client can place the situation in the past, and reminders no longer trigger the distressing emotions.

The next session the reported he felt good, his sleep was greatly improved and reminders of the incident were no longer distressing. A follow-up was scheduled for six weeks later.

At the next session, he reported feeling irritable and angry at work. He did not know why. A recent work situation where he was particularly angry was targeted with EMDR. With processing, he became aware of how angry he was at being exposed to his vulnerability and that he could not be in total control of the situation. With further processing, he realized the incident also reinforced his self-perception that he was capable of acting appropriately when his life was threatened, and that he could do so in the future. He now had a more realistic view of control, and an increased sense of efficacy.

This last session illustrates how issues of vulnerability and helplessness continued to haunt the officer and was manifested by anger and irritability. With processing, his perception of self-efficacy was reinforced. Follow-up sessions showed that he maintained his treatment gains and remained symptom free.

In the above example, the officer's basic world assumptions had been violated. Although he knew he could be killed, he did not believe (deep down) that it could happen to him because he was a competent, skilled officer. He had believed he would be able to exercise control over situations that confronted him, a belief consistent with his perceived life experience. Now he knew that he was vulnerable, and that he could be confronted with situations beyond his control. Processing the traumatic situation resulted in an expansion of basic world assumptions. From believing that serious life threatening events would not happen to him because he could exercise control, there was movement to the realization that such events could happen. Although he had a deeper awareness of his vulnerability, his sense of efficacy was also reinforced - even though events can occur beyond his control, he has control over his response to the situation. Issues of responsibility (i.e., his guilt), present safety (i.e. his fear), and personal control (i.e. feelings of helplessness) were resolved. The above situation illustrates the importance of focusing beyond the specifics of the traumatic event to the core beliefs and assumptive world that may have been violated.

Conclusion

EMDR is a therapeutic approach that supplements a clinician's ability to help clients process traumatic material, complicated emotions, dysfunctional elements of grief and other psychological problems. Although the working therapeutic elements and theory behind the procedure is debated and need further research, the method offers a promising avenue for the resolution of trauma and distressing memories.

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