

THE EFFECTIVENESS OF EYE MOVEMENT DESENSITIZATION AND REPROCESSING
(EMDR) IN THE TREATMENT OF PSYCHOLOGICALLY TRAUMATIZED
INDIVIDUALS: A LITERATURE REVIEW

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ABSTRACT

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The purpose of this literature review was to investigate the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR) with traumatized individuals primarily diagnosed with Post Traumatic Stress Disorder (PTSD). In this investigation an overview of Eye Movement Desensitization and Reprocessing (EMDR) as well as other approaches in the treatment of traumatized individuals was explored. Included in this investigation is a critical review of controlled research and the use of EMDR. Finally, the information is summarized and recommendations are offered based upon information gathered.

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CHAPTER I

Introduction

Today, people are faced with many challenges in their everyday lives. These challenges may come in the form of a natural disaster, personal assault, or terrorism. An example of how trauma can enter our everyday life is in the 1999 tragedy at Columbine High School. At approximately 11:30 am on Tuesday, April 20, 1999 two students dressed in black trench coats with black masks entered Columbine High School in Littleton, Colorado with shot guns, grenades, and home made bombs and proceeded to open fire on anything and everyone that moved. This tragedy continued to claim lives even after the initial incident, when a mother killed herself because she could not bear the pain of losing her child. Another example of how lives can be lost and changed forever is the Oklahoma City bombing disaster. On April 19, 1995, Timothy McVeigh carried out a terrorist attack on a federal building that left 168 people dead. On that same day, due to the bombing, a search and rescue operation began and continued for fourteen days. These and other events can continue to cause psychological distress long after the initial event.

After a trauma that confronts an individual with their vulnerability, life can never be truly the same. Sorting out exactly what happened and sharing their reactions with others can make a great deal of difference in the individual's adaptation to the event. For many, the traumatic experience will somehow be integrated as part of the person's life. Others may be at risk for developing Post Traumatic Stress Disorder (PTSD).

Results of the National Comorbidity Survey (NCS), reported by Kessler (1995), suggests that 60.7% of men and 51.2% of women reported experiencing at least one traumatic event in

their lifetime. Of those experiencing a trauma, nearly eight percent develop PTSD, with women twice as likely as men to develop symptoms at some point in their lives. The most frequently experienced traumas reported were: witnessing someone being badly injured or killed; being involved in a fire; flood, or natural disaster; being involved in a life-threatening accident; and combat exposure. Further, PTSD is often a lifetime disorder that can persist for years.

The prevalence of PTSD among the American population highlights the critical need for mental health providers to be aware of effective treatments for this disorder. Several traditional methods of treating PTSD exist, including: flooding; narrative therapy; psychotherapy; hypnosis; and drug therapy. In addition, a more recently developed intervention, Eye Movement Desensitization and Reprocessing (EMDR; Shapiro, 1989) is being used more and more frequently in the treatment of PTSD. EMDR is a new therapeutic treatment in which the client engages in rapid eye movements while focusing on a disturbing memory, feeling, image, or body sensation associated with a past traumatic event. The process is thought to allow the client to access repressed memories and feelings, which he or she may have not been able to remember, discuss, or therapeutically process. Thus, proponents of the approach believe EMDR can potentially allow individuals with PTSD to “reprocess” traumatic events in a therapeutically healthy way. Further, EMDR is thought to facilitate this process rather dramatically by removing excessive fear and emotional anxiety surrounding a past trauma. As a result, the individual can regard it as a memory with little or no associated negative emotions.

In general, there appears to be a lack of clinical outcome research on the effectiveness of traditional methods for treating PTSD. The disorder was officially recognized and classified in the 1980 Diagnostic and Statistical Manual of Mental Disorders (DSM-III), yet thirteen years

later only six randomized clinical outcome studies were to be found in the published literature (Solmon, Gerrity, & Muff (1992), and four of these studies were limited to subject specific samples of male Vietnam combat veterans. However, proponents of EMDR have made claims about its effectiveness.

Shapiro (1995) reports that EMDR has had more published case reports and controlled outcome research to support it than any other method currently used in the treatment of PTSD and over 30,000 clinicians have been trained worldwide. Indeed, case reports claim to support EMDR as an effective treatment for traumatic memories (Kleinknecht & Morgan, 1992; Loevin, 1993; Lipke & Botkin, 1992; Marquis, 1991; McCann, 1992; Page & Crino, 1993; Wernick, 1993; Wolpe & Abrams, 1991). Independent reviewers also recently placed EMDR on a list of treatments deemed “probably efficacious for civilian PTSD” as were exposure therapy (e.g., flooding) and stress inoculation therapy (Chambless, Baker, Baucom, Beutler, Calhoun, Crits, Daiuto, DeRubeis, Detweiler, Haaga, Bennett Johnson, McCury, Mueser, Pope, Sanderson, Shoham, Stickle, Williams, & Woody, 1998). Wilson and Tinker (1995) has also concluded that while much support for EMDR exists in case reports, research is needed to empirically evaluate the treatment.

The question that needs to be addressed is, has EMDR been studied empirically or are therapists getting caught up in the wondrous cures that it may provide? Even more important is whether clinicians are relying on research data and critiquing the quality of the research that has been done when making decisions with regard to the treatment of their patients. It is of utmost importance for mental health providers to make therapeutic decisions that are well grounded in research such that the best interests of the patient are at the forefront.

Research Intentions

Given the need for further investigation on the effectiveness of EMDR as a therapeutic treatment for individuals diagnosed with PTSD, the purpose of this study is to review empirical research on the effectiveness of EMDR for individuals diagnosed with PTSD. The review specifically addresses current research issues in making decisions regarding treatment effectiveness. The issues to be discussed include: methods for selecting subjects; consistency in conducting EMDR; and methods for evaluating treatment effectiveness. A critical analysis of the findings and conclusions regarding EMDR effectiveness are presented. Recommendations for future research are also discussed.

Method for Selecting Subjects

In the selection of studies, the researcher noted critical characteristics of the subjects involved. In the case of war veterans, secondary gain was an issue due to the possibility of the subject losing their disability check if their PTSD was cured. Therefore, studies of these subjects were not included in the present investigation. Two other criteria used in the elimination of subjects studied were whether dual diagnosis or active drug use were present in the subjects. Thus, the researcher took into consideration whether or not the groups studied were representative of the population as a whole. This is imperative for the research outcome to have significant meaning and for the results to be generalizable to similar clientele (Shapiro, 1995). Individuals diagnosed with PTSD can vary greatly with regard to whether or not the individual is actively using drugs, has a dual diagnosis, has suffered one or several traumatic experiences, or has secondary gain issues such as compensation for their disability. Thus, simply stating that EMDR is effective for the treatment of PTSD is meaningless without information that the

intervention is effective with individuals who have diverse symptomology or other areas of difficulty.

Conducting EMDR

EMDR is best known and named for the eye movements used in the process of working with clients who have suffered traumatic experiences. The eye movements are only one part of the method. Before attempting to work with the individual the clinician must establish therapeutic rapport and gain a full history of the client. The approach used by the clinician varies with the client's type of pathology, taking into consideration the type and number of traumas the client has experienced. EMDR is a complex intervention that encompasses all aspects of memory and dysfunction. In addition, this method works toward generalization of positive effects in other areas of the client's life. Every EMDR treatment session includes attending to negative and positive self-attributions, somatic manifestations, and issues of self-control and self-esteem. EMDR protocol follows an eight-phase standard approach developed by Dr. Francine Shapiro, a psychologist at the Mental Research Institute in Palo Alto, California. The standard approach needs to be used in a way that is consistent with clinical practice, and if special circumstances arise that require deviation from standard protocol the author offers procedures for these special situations. Any positive treatment effect is the result of an interaction between the clinician, method, and the client. The treatment process is complete when evaluation of the treatment effects takes place.

Evaluating Treatment Effectiveness

Another important element when critiquing treatment research is to evaluate the measurement tools used to assess improvement in symptomology and demonstrate effectiveness.

Researchers should use measurement tools that are capable of assessing change when a single memory has been successfully processed. If only one disturbing memory is being treated in clients who are suffering from multiple traumas many of the instruments used are not likely to detect change. At a more basic level it is important to use measurement tools that measure what the clinician intends to measure. Again, Shapiro makes recommendations as to what tools are most effective in the diagnosis of PTSD and in the measurement of clinical change resulting from EMDR.

Definition of Terms

For clarity of understanding the following terms need to be defined:

- 1) Eye Movement Desensitization and Reprocessing (EMDR): According to the original author, “EMDR is a treatment where the client is asked to hold in mind an image of the trauma, a negative self- cognition, negative emotions, and related physical sensations about the trauma. While doing so, the client is instructed to move her or his eyes quickly and laterally back and forth for about 15 to 20 times, following the therapist’s finger. Other forms of left-right alternating stimulation (auditory, tactile) is sometimes used” (Shapiro, 1995, p.22).
- 2) Post Traumatic Stress Disorder: As stated by Dianne and Rover Hales (1996) in Caring for the Mind: The Comprehensive Guide to Mental Health, “PTSD is an intense, persistent, extremely distressing response to an event that has threatened a life or safety” (1996, pp. 274, 275).

CHAPTER II

Literature Review

In chapter two, an overview of Post Traumatic Stress Disorder (PTSD), Eye Movement Desensitization and Reprocessing (EMDR), and the theories that are thought to explain treatment effectiveness is presented. Then, research examining the effectiveness of EMDR on select groups of individuals diagnosed with PTSD is reviewed.

Post Traumatic Stress Disorder

Post Traumatic Stress Disorder has a profound effect on those people who suffer from it. PTSD can occur at any age, including childhood. Terrifying experiences that erode the individual's sense of predictability and invulnerability can profoundly alter the ways they deal with their emotions and environment. Symptoms usually begin within the first three months after the trauma, although there may be a delay of months, or even years, before symptoms appear. A lack of predictability and control are the central issues for the development and maintenance of PTSD symptoms.

What distinguishes people who develop PTSD from people who are temporarily overwhelmed is that people who develop PTSD begin to perseverate on the trauma. It is the intrusive perseveration of the event, rather than the traumatic event itself, that is responsible for the biological and behavioral change defined as PTSD. Once an individual with PTSD becomes dominated by reliving the trauma, he or she will begin organizing his or her life around avoidance of having them. Avoidance may take many different forms: keeping away from reminders; taking drugs or alcohol that numb awareness of distressing emotional states; or utilizing dissociation to keep unpleasant experiences from conscious awareness. For example,

persons who have been mugged or assaulted may be afraid to leave the safety of their home. But for those who suffer from PTSD, there is no escape. These individuals experience the trauma over and over again in their thoughts and dreams. For some, the only way to cope is to shut down all emotion. This results in the inability to feel the “bad” as well as the “good”, leaving the individual emotionally numb.

Estimates suggest that the incidence and lifetime prevalence rate of PTSD in the general population range from 1-9%. The American Psychiatric Association reports that ten percent of the population will be affected at some point by clinically diagnosable PTSD (Hales, 1996). These levels are reported to increase for young adults living in inner cities (23%), and for wounded combat veterans (20%). Research shows that PTSD affects both male and female civilians, and that it strikes more females than males. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) requires that specific terminology be used to identify onset and duration of the symptoms reported by the client. The term “acute” is used when the duration of symptoms is less than three months. “Chronic” indicates that the symptoms last three months or longer. Finally, “with delayed onset” indicates that at least six months have passed between the traumatic event and the onset of symptoms (APA, 1994). The treatment of PTSD is discussed in the following paragraphs.

EMDR Overview

EMDR was developed from a phenomenon that was first observed by Dr. Francine Shapiro, a psychologist at the Mental Research Institute in Palo Alto, California. While walking through a park, preoccupied with upsetting thoughts, she noticed that by moving her eyes repetitively back and forth, the thoughts seemed to lose their intensity. As a result of many years

of clinical experience, Shapiro observed that the disturbing thoughts experienced by clients seemed to have a pattern. These thoughts were played over and over again in the mind of the client until something was consciously done to halt or alter them. So it was somewhat surprising to discover that in moving her eyes back and forth, conscious effort was not required. By using the eye movements with friends, colleagues and clinicians, Shapiro devised a standard protocol that lessened the anxiety associated with disturbing thoughts being experienced by the individuals (Shapiro, 1995).

The method was initially named Eye Movement Desensitization (EMD), as the primary goal of the method was to reduce anxiety. The first controlled study (1987) was an attempt to explore the effectiveness of EMD on pathological conditions, such as PTSD. Subsequently, Shapiro tested the method on two groups of individuals suffering from PTSD, rape victims and Vietnam veterans. In both groups, the rapid eye movement procedure reduced the intensity and frequency of disturbing symptoms related to the original trauma. When she followed up on these groups a year later, she found that they had remained symptom-free (Shapiro, Forrest, 1997).

Since its discovery in 1987, EMDR has been widely accepted by many in the mental health community. However, the use of directed eye movement as part of therapeutic treatment was not immediately accepted by many practitioners. This is due to the fact that the initial use of eye movements in therapy was based on chance observations rather than on theory or experimental data. The development of the method and its theoretical framework grew from an exploration of the consistency of the treatment effects and experimentation that refined the use of the eye movements and other elements of the process.

EMDR follows an eight stage process that begins with creating a “safe place” for the client to begin processing the traumatic experience. The initial stage begins by the clinician and client identifying a place that feels safe and peaceful. In stage two, the clinician asks the client to focus on where they are (the safe place), to feel the emotions, and to locate the pleasant physical sensations. Step three involves the enhancement of imagery and emotion. The client is asked to report when he or she feels the emotions. In step four the positive response is enhanced by including a series of eye movements. The direction and speed of the movement is determined by what is reported to be comfortable for the client. Once this is established, step four begins and the client is asked to go to the place that feels safe and peaceful and to concentrate on where in their body the sensations are occurring. The client is then directed to follow the clinician's finger with their eyes. At the end of each set of eye movement the client is asked to report how they feel (better or worse). The direction and speed of the eye movements may be altered to facilitate effectiveness. In step five the client is asked to identify a single word that describes the “safe place” and to repeat this word while feeling emotionally secure. The process is enhanced by eye movements and is repeated four to six times (Shapiro, 1995).

In the remaining steps the client is taught “self-cueing”. This process involves steps one through five and the exercise is practiced by the client independently without eye movements. The client is asked to bring up the image and the word, and to experience the positive feelings. At this point the clinician instructs the client to think about something that is upsetting to them and to notice any negative feelings. The client is guided by the clinician until the negative emotions are gone and then practiced without the assistance of the clinician. Finally, the client is encouraged to practice EMDR on their own for simple relaxation and stress reduction. In the

following section, the theories that support EMDR as a treatment for traumatized individuals will be discussed.

Treatment of PTSD

There are several ways to treat Post Traumatic Stress Disorder (PTSD): flooding; narrative therapy; psychotherapy; hypnosis; and drug therapy. The treatment of PTSD has three components: 1) processing and coming to terms with the traumatic experience; 2) controlling and mastering physiological and biological stress reactions; and 3) re-establishing relationships that are safe (Van Der Kolk, 1994). The goal of these therapies is to help the traumatized individual to move from being pre-occupied and haunted by the past to being present in the here and now. Therefore, the trauma needs to be integrated into the whole of the individual's life as an isolated historical event, or series of events that will not reoccur if the therapy is successful in helping the client take charge of his or her life. (Van Der Kolk, 1994).

The evaluation of any method of treatment for trauma must include both clinical observations and experimental findings. Controlled clinical outcome research in most areas of mental health are few in number and most often lag far behind clinical practice. For example, systematic desensitization was introduced by Joseph Wolpe in 1952, yet the first controlled study establishing its effectiveness did not appear until eight years later (Paul, 1996). Additionally, while flooding is widely used as a standard treatment for PTSD, empirical evaluation of its effectiveness was not studied until after nearly seven years of clinical use (Fairbank & Keane, 1982, Cooper & Clum, 1989). One of the new treatments for PTSD that shows much promise is Eye Movement Desensitization and Reprocessing (EMDR). According to Shapiro,

“EMDR is a treatment that resolves long-standing traumatic memories within a few treatment sessions. During EMDR treatment, the client is asked to hold in mind an image of the trauma, a negative self-cognition, negative emotions, and related physical sensations about the trauma. While doing so, the client is instructed to move his or her eyes quickly and laterally back and forth for about 15 to 20 times following the therapist’s finger. The client then reports the images, cognitions, emotions, and physical sensations that emerged. This recursive procedure continues until desensitization of troubling material is complete and positive self-cognitions have replaced the previous negative self-cognition”(Shapiro, 1995, p. 55).

Theoretical Framework

In the following paragraphs an examination of the theories that underlie EMDR’s treatment effects are examined. For the most part, these theories have come about after the fact and have not been proven or disproven as reasonable explanations for these treatment effects. The physiology of the brain leaves much to the unknown. Therefore, it is difficult to confirm the theories that are thought to underlie EMDR.

One factor that gives creditability to EMDR is that there may be a biological basis for why it works. Eye movements used in the procedure are similar to those that occur naturally during dream states. It is believed that one of the functions of dreaming is to integrate incomplete or unfinished experiences from the preceding day (week or month)—that is, experiences not fully thought through and assimilated at the time of occurrence. In the same manner, EMDR seems to allow the brain to access and reprocess “unfinished business” from past traumatic events (Shapiro, Forrest, 1997).

The Accelerated Information Processing model (Hale, 1996) is one way that EMDR treatment effects are explained. Within this model the targeted information is brought to the client's mind, the negative emotions are identified and lessened, the thoughts and images are viewed in a positive way, and then stored in memory. Accelerated Information Processing provides the client with an emotionally corrective experience. The foundation of this theory is psychoanalytic theory.

Review of Studies/Effectiveness

Since the initial effectiveness study, positive therapeutic results with EMDR have been reported with a wide range of populations including the following: a) combat veterans from Desert Storm, the Vietnam War, the Korean War, and World War II who were formerly treatment resistant and who no longer experience flashbacks, nightmares, and other PTSD symptoms (Blore, 1997; Carlson, Chemtob, Rusnak, & Hedlund, 1996; Daniels, Lipke, Richardson, & Silver, 1992; Lipke & Botkin, 1992; Thomas & Gafner, 1993; White, 1998; Young, 1995); b) persons with phobias and panic disorder who revealed a rapid reduction of fear and symptomatology (Doctor, 1994; de Jongh & ten Broeke, 1998; de Jongh, ten Broeke & Renssen, 1999; Feske & Goldstein, 1997; Goldstein, 1992; Goldstein & Feske, 1994; Kleinknecht, 1993; Nadler, 1996; O'Brien, 1993); c) crime victims and police officers who are no longer disturbed by the aftereffects of violent assaults (Baker & McBride, 1991; Kleinknecht & Morgan, 1992; Page & Crino, 1993; Shapiro & Solomon, 1995; Solomon 1995); d) people relieved of excessive grief due to the loss of a loved one or to line-of-duty deaths, such as engineers no longer devastated with guilt because their train unavoidably killed pedestrians (Puk, 1991; Solomon, 1994, 1995; Shapiro & Solomon, 1995); e) children healed of the symptoms

caused by the trauma of assault or natural disaster (Chemtob, Nakashima, Hamada & Carlson, 1996; Cocco & Sharpe, 1993; Datta and Wallace 1994, Greenwald & Elrod 1999; Shapiro, 1991; Tinker & Wilson, 1999); f) sexual assault victims who are now able to lead normal lives and have intimate relationships (Hyer, 1995; Parnell, 1994, 1999; Puk, 1991; Shapiro, 1989, 1991, 1994; Wolpe & Abrams, 1991); and g) accident, surgery, and burn victims who were once emotionally or physically debilitated and who are now able to resume productive lives (Blore, 1997; Hassard, 1993; McCann, 1992; Puk, 1992; Solomon & Kaufman, 1994).

There are more controlled studies on EMDR than on any other method used in the treatment of PTSD (Shapiro, 1995, 1996; Spector & Read, 1993; Van Etten & Taylor, 1998). A literature review indicated only six other controlled clinical outcome studies (excluding drug therapy) in the entire field of PTSD (Solomon, Gerrity, and Muff, 1992). The following section includes a discussion of the studies that have been conducted to evaluate the effectiveness of EMDR.

Controlled Studies with Civilians

A comparison of EMDR, supportive crisis counseling and non-treatment controls with a one month and three month follow-up, was conducted by Levin, Grainger, Allen-Byrd, and Fulcher (1994). This controlled study of 45 Hurricane Andrew (Florida) survivors found significant differences in scores on the Subject Unit of Disturbance (SUD) and Impact of Event Scales (IES), indicating that EMDR is more successful in the treatment of natural disaster (single trauma) victims than the other treatments used (image habituation training and applied muscle relaxation). A decrease in symptomology was accomplished with only one EMDR session. In another comparative study, Wilson, Covi, Forster, and Silver (1994) randomly assigned 18

subjects suffering from PTSD to eye movement, hand tap, or exposure-only groups. In this study significant differences were found using physiological measures in addition to the SUD scale. The results showed with the eye movement condition only, a reduction of heart rate, skin temperature, and the SUD scale symptomology. These responses occurred during the eye movement sets and therefore the experimenters concluded that EMDR was effective. These two studies show the effectiveness of EMDR in the treatment of PTSD symptoms with only one treatment session. Both of these studies adhered to treatment protocol (fidelity), used sound measures to determine treatment effects, and EMDR instructors assessed the validity of the method used.

Vaughan, Armstrong, Gold, O'Connor, Jenneke, and Tarrier (1994) conducted a controlled comparative study using thirty-six subjects diagnosed with PTSD. The subjects were randomly assigned to three to five treatments of 1) imaginal exposure, 2) applied muscle relaxation, or 3) EMDR. The treatment consisted of four sessions, with 60 and 40 minutes of additional daily homework over a two to three week period for the image exposure and muscle relaxation groups. No additional homework was assigned to the EMDR group. All treatments led to significant decreases in PTSD symptoms with greater reduction in the EMDR group, particularly with respect to intrusive symptoms. This comparative study reinforces the effectiveness of EMDR over other forms of treatment, although the study did not report whether or not the clinicians follow standard EMDR procedures.

Wilson, Becker, and Tinker assigned 80 trauma subjects (37 diagnosed with PTSD) to treatment or delayed-treatment EMDR conditions and to one of five trained clinicians. Post-treatment data was collected at thirty days, ninety days, and again at twelve months. Substantial

results were found each time the data was collected on the State-Trait Anxiety Inventory (STAI), Post Traumatic Stress Disorder Interview, IES, Symptoms Check List-90-Revised (SCL-90-R), and the SUD and Validity of Cognition Scale (VOC) scales. The effects were equally effective whether or not the subject was diagnosed with PTSD. Renfrey and Spates (1994) conducted a controlled component study of 23 PTSD subjects. The researchers compared EMDR with eye movements initiated by tracking a clinician's finger, EMDR with eye movements tracking a light bar, and EMDR using fixed visual attention. All three conditions produced positive changes on the Clinician Administered PTSD Scale (CAPS), SCL-90-R, IES, and the SUD and VOC scales. This study showed the effectiveness of EMDR using varied stimuli to promote fixation in two to six sessions. The authors did not report whether or not they adhered to standard procedures for EMDR protocol.

Controlled Studies with Combat Veterans

The very first controlled study of 22 subjects suffering from PTSD included combat, rape, and molestation victims. In this study, a comparison of EMDR and modified flooding were used. Positive treatment effects were obtained for the treatment and delayed treatment conditions on SUD's and behavioral measures, which were independently assessed at one-and-three month follow-up sessions. This author reports high adherence to protocol procedures (Shapiro, 1989). In a pilot study, 20 chronic inpatient veterans were randomly assigned to EMDR, exposure, and group therapy conditions. Significant positive results were found from EMDR for self-reported distress levels and therapist assessment. No changes were found in standardized and physiological measures, a result attributed by the authors to insufficient treatment time, considering the secondary gains of the subjects who were receiving

compensation from the Veterans Administration. Results were considered positive enough to warrant further, extensive study, which has been funded by the Veterans Administration. No fidelity check was reported for the study. Reports indicated that EMDR was superior to a group therapy control (Boudewyns, Hyer, Peralme, Touze, & Kiel, 1994, August).

Jensen conducted a controlled study of the EMDR treatment with 25 Vietnam combat veterans suffering from PTSD. Compared to a non-treatment control group, he found a small but statistically significant difference in favor of EMDR after two sessions for in-session distress levels, as measured on the SUD Scale, but no differences on global measures such as the Structured Interview for Post-traumatic Stress Disorder. The intern-researchers reported low fidelity checks of adherence to the EMDR protocol and skill of application, which indicated their inability to make effective use of the method to resolve the therapeutic issues of their subjects. The study was also hampered by an insufficient amount of treatment time for these multiply traumatized veterans (Jensen, 1994, pp. 321-326).

In a controlled component analysis study of 17 chronic outpatients veterans, using a crossover design, subjects were randomly divided into two EMDR groups, one using eye movement and a control group that used a combination of forced eye fixation, hand taps, and hand waving. Six sessions were administered for a single memory in each condition. Both groups showed significant decreases in self-reported distress, intrusion, and avoidance symptoms. SCL-90-R changed in the eye movement condition only, while the Clinician-Administered PTSD Scale (CAPS), Mississippi Scale for Combat-Related PTSD, and State Anxiety remained unchanged in both (Pitman, 1993).

CHAPTER III

Critical Analysis of Studies

In this chapter, an analysis of the research reviewed in Chapter II is presented. In many of these studies, standard psychometrics are used that are unable to reflect successful treatment results. This is unfortunate for researchers because there is a general lack of standard psychometrics that are able to reveal therapeutic change when a single memory out of many is successfully reprocessed using EMDR. The instruments used to detect change need to be sensitive to needs of the experimenter and the area of investigation.

Component analyses (Pitman, Orr, Altman, Longpre, Poire, & Lasko, 1993; Renfrey & Spates, 1994; Wilson, Covey, Foster, & Silver, 1994) have compared eye movements to other forms of stimulation or to forced eye fixation without using a conventional treatment or a true placebo condition for comparison. Except for the physiological response revealed by Wilson, et al.'s use of biofeedback equipment, this design sheds little light on treatment effects because alternate stimulation has been used with success by EMDR clinicians for a long time. Furthermore, the other procedural components of EMDR produce positive treatment effects and therefore should not be used as a placebo condition. EMDR was named for its use of directed eye movements, but these movements represent only one component of the methodology. The eye movements are not the only forms of external stimulation to have therapeutic impact (Van Der Kolk, 1994).

The Renfrey and Spates (1994) study raises an interesting question, as do many of the other studies reviewed. The number of subjects in a study directly affects the reliability of the findings. The reliability in turn has an effect on the validity of the study. In the above-

mentioned study the lack of statistical significance between the two treatment groups could very well be due to the fact that the EMDR group was composed of 8 subjects and the visual attention group contained 7 subjects. Unfortunately, studies with a relatively small number of subjects are limited in their ability to predict the effectiveness of the treatment being used.

Pitman, et al. compared a condition of the EMDR procedure using eye movements to a condition of the EMDR procedure using a combination of: (1) visual fixation of a dot on the wall; (2) hand tapping; and (3) rhythmic visual stimulation created by the therapist repetitively moving his or her hands in front of the subject. The second condition was considered to be a placebo. However, this is essentially comparing EMDR to itself. Attention focusing tasks such as hand tapping have been used clinically in place of the eye movements with comparable results. So it was no surprise that Pitman, et al. (1993) found little difference in the effectiveness of their two conditions; a true placebo (or exposure only) condition would be one that does not include any of the major components of EMDR or factors contained in the eye movements themselves. In addition, the complexity of the combined control condition used by Pitman, et al. muddies the water in determining what aspect of eye movements might be responsible for their therapeutic effect.

When using combat veterans as subjects in a study, the researcher must take into consideration that many, if not all, of these subjects may have secondary gain issues with regard to veterans' administration benefits. A veteran receiving benefits due to a chronic condition may very well be reluctant to report a decrease of symptoms related to the treatment received. Frequently, veteran administration benefits have become a part of life for these individuals. This

issue must be addressed if anything more than a small treatment effect can be expected by the researcher (Shapiro, 1995).

Summary, Conclusions, and Recommendations

The following section provides a summary of the research, conclusions, and recommendations for clinicians.

Summary

Most of the studies resulted in clinically positive results with regard to the effectiveness of EMDR. Some published research on EMDR has not conformed to the way the method is used in clinical practice. Researchers untrained in the method and using only a restricted number of directed eye movements nevertheless drew conclusions about the entire method (Sanderson and Carpenter, 1992; Tallis and Smith, 1994). Neither of these studies was viewed seriously due to this inadequacy, and both of these studies found effects that were essentially equivalent to simple exposure. While these studies may allow for conjectures about the effectiveness of isolated and restricted eye movements, the results shed no light on the use of the overall EMDR method (Shapiro, 1995).

EMDR is a complex methodology that entails much more than directed eye movement. Some clients do not respond to certain eye directions or speeds, and others require that the eye movements be systematically altered during the course of therapy in order to maximize treatment effects. Untrained researchers who used four to seven sets of eye movements that are restricted to the same direction, rate, and number report only marginal improvement in their subjects. This is unfortunate in that the Sanderson and Carpenter (1992) study of phobic clients, for example, reported a decrease of distress equivalent to only two SUD Scale units after seven sets of

restricted eye movements, a finding that led readers to conclude phobics could not receive substantial relief with EMDR. On the other hand, an EMDR-trained researcher (Kleinknecht, 1993) reported the complete desensitization of a blood phobia (a decrease of ten SUD Scale units) after a period of treatment equivalent to one session. Self-report, physiological, and behavioral measures validated Kleinknecht's reported clinical effects, thus supporting the claim of numerous clinicians that EMDR is a powerful treatment for phobias (Shapiro, 1995). As stated by Francine Shapiro,

“The effects of the eye movements, or alternative stimulation, while considered a central factor in EMDR, are clearly augmented and facilitated by other aspects of the standardized procedure and protocols. Thus the results of studies by researchers who have never been trained in the use of EMDR cannot provide definitive conclusions about the efficacy of the method as it is actually used in clinical practice” (1995, p. 216).

Even with EMDR-trained researchers, validity checks should be performed on their use of the method, since training alone does not guarantee competence and treatment integrity. For instance, validity checks reported previously in combat studies (Pitman, et al., 1993) revealed variable treatment fidelity and a positive correlation between how well the method was used and how well the treatment worked. In addition, a study by two inexperienced interns who had not completed formal EMDR training (Jensen, 1994) also resulted in a low fidelity evaluation, which warned the researchers before the study was completed that they were exploring difficult and complex areas without the necessary skills (Shapiro, 1995).

Conclusions

The effectiveness of EMDR has been demonstrated in many studies, but what we do not know is how EMDR works. The mechanisms that underlie the information processing in the brain are unknown. Explanations that can demonstrate how eye movements desensitize troubling memories and allow the client to replace these traumatic memories with positive self-cognition are not available due to lack of understanding of neuropsychological functioning. There are theories that attempt to explain why EMDR has a therapeutic effect. The theories, according to Francine Shapiro (1995),

"involve the method's procedural elements, and specific hypotheses address the eye movement component. The latter attribute the therapeutic effect of the eye movement to the disruption of stereotypic responses, distraction, hypnosis, synaptic alterations, REM sleep concomitants, a compelled relaxation response, or activation of cortical (brain) functions" (p. 340).

Much of the popularity of EMDR is mainly due to the observations of trained clinicians and not the controlled research on this method. This is partially due to the lack of clinical outcome research in the area of posttraumatic stress in general. There is a need for scientific investigation to address the problem areas of current research. Issues such as treatment fidelity, the use and development of standardized psychometrics, and the identification and use of appropriate numbers of subjects must be addressed in order to test EMDR adequately. As stated by Francine Shapiro,

"EMDR has already helped to relieve the suffering for thousands of clients and has affected many thousands more through clients' associations with friends and family.

However, the method is only as good as the clinicians that are trained to use it. EMDR's therapeutic potential is enormous -- and so is each clinician's personal responsibility to use it judiciously and well" (1995, p.341).

Recommendations

The following recommendations are offered.

- 1) Yearly updates of suggested psychometrics for the major DSM categories would help to standardize the efforts of new researchers in studying EMDR.
- 2) The issue of treatment fidelity is of great concern in the use of EMDR. Is the method being tested actually the method being used in clinical practice?
- 3) Chronic subjects receiving compensation for their psychological or physical disability should be disqualified in EMDR research due to secondary gains.
- 4) More neuropsychological research needs to be conducted to explain why EMDR is successful in treating patients with PTSD.
- 5) When doing comparative research, the treatments should be compared to a non-treatment control. In addition, research populations in comparative research should be similar in make-up so that the researchers are comparing apples to apples or PTSD to PTSD.

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