

A THEORY ON THE USE OF COGNITIVE BEHAVIORAL THERAPY (CBT) PLUS EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR) TO REDUCE SUICIDAL THOUGHTS IN CHILDHOOD TRAUMA VICTIMS

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Many victims of childhood trauma struggle with recurrent suicidal thoughts and behaviors even after traditional therapies. We used a combination of Cognitive Behavioral Therapy (CBT) plus Eye Movement Desensitization and Reprocessing (EMDR) in five patients with histories of childhood trauma and recurrent suicidal thoughts to reduce or eliminate suicidal thoughts, behaviors, and attempts after 3 months to 5 years follow up. These findings suggest that CBT plus EMDR might be a combination therapy to reduce or eliminate suicidal thoughts in victims of childhood trauma.

Suicidal behaviors and suicide attempts start with suicidal thoughts. Thoughts precede actions. Without suicidal thoughts there would be no suicides!

Suicidal thoughts often are linked to traumatic childhood memories. Several studies have linked childhood abuse with subsequent suicidal thoughts and attempts (van der Kolk, Perry, & Herman, 1991, Putnam, 1996, Teicher, 1996). All described linkage between sexual abuse, witnessing domestic violence, disruptions of attachment, total neglect (often before age 14) and subsequent suicidal behaviors - generally, the earlier the trauma the stronger the linkage. Recently, Dube concluded that approximately two thirds (67%) of suicide attempts were attributable to one or more of the eight types of traumatic childhood experiences that they studied (Dube, et al, 2001).

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In 1998, Tullis reported 50 patients with life-long struggles with suicidal thoughts, suicidal preoccupation, and suicide attempts. All 50 patients experienced their first suicidal thoughts between ages 7 and 14, during or shortly after a traumatic event. Two thirds of the participants were women. Many of them reported onset of suicidal thoughts during or shortly after childhood sexual abuse, often describing the thoughts as "a way out", saying, "if all else fails I can always kill myself." Some reported their first suicide attempt soon after the sexual abuse. Others reported onset of suicidal thoughts during or shortly after episodes of abandonment such as a parent forgetting to pick them up after a camping trip. Some of the men reported onset of suicidal thoughts during or shortly after episodes of failure such as flunking a test.

All patients described mood and mind alteration from the initial thoughts of suicide, indicating they were calmed by having "a way out" or "a solution", and thus felt in control again. All of them reported keeping the suicidal thoughts a secret because suicide is a taboo subject, and most described tucking the thoughts away in the back of their minds, aware that such thoughts of suicide offered a future way out of their pain. During subsequent painful, traumatic situations, all patients reported a return of suicidal thoughts. Most of them described a trance-like state leading up to and during subsequent suicide attempts, including a sense of "tunnel vision", "altered sense of time and space", and being on "automatic pilot" (Tullis, 1998). Several of these cases were described in detail in 2002 (Taylor, 2002).

Cognitive Behavioral Therapy (CBT) has been used successfully with trauma victims and depressed patients to reframe negative cognitions into positive ones (Beck, et al, 1979, Foa, et al, 1991, Creamer, et al, 1992). Eye Movement Desensitization and Reprocessing (EMDR) has been shown to be effective in reducing the intensity of subjective distress related to traumatic memories (Shapiro, 1989, van der Kolk, 1994). Therefore, a combination of CBT and EMDR should be very effective in reducing suicidal thoughts related to childhood traumatic memories by neutralizing the intensity of subjective

distress and reframing the content and associated thoughts and assumptions related to such memories.

METHODS

Between September 1997 and June 2002 five patients from our private practices or from the Lakeside Behavioral Health System's Adult Inpatient Suicide Prevention Program were interviewed before, immediately after, and three months after CBT/EMDR focused around the trauma linked to their first suicidal thoughts. The frequency, intensity, and meaning of these suicidal thoughts and any suicidal behaviors were recorded before and after the CBT/EMDR process and again at three month intervals. Several patients were interviewed after 1- 5 1/2 years.

Our CBT/EMDR technique consisted of four steps: 1) Using a workbook to identify each trauma associated with suicidal thoughts. 2) Identifying the first suicidal thought and the associated trauma. 3) Using EMDR to reduce the pain from the trauma associated with the first suicidal thought. 4) Using CBT to replace the negative core cognition associated with the trauma with a positive core cognition.

During EMDR, the patient targeted the specific first suicidal memory and the most distressing visual image associated with it. The therapist encouraged the patient to outline the thoughts and feelings that are elicited by the visual image and to identify a current negative cognition about him or herself which is related to the target memory. By contrast, the therapist also asked the patient to choose a positive cognition to place alongside the negative image. This positive image expressed a desired cognitive picture of the patient. The patient then rated the accuracy of the positive belief on the Validity of Cognition Scale (VOC), where 1 represents "completely false" and 7 represents a "completely true" statement. The patient also identified the emotions that were elicited when the visual image was combined with the negative belief. The attendant level of distress elicited by the memory of the disturbing event or negative cognition was rated from 1 to 10 on the Subjective Unit of Disturbance (SUD) scale, where 0 is calm and 10 is the most crippling distress.

Next, the patient focused on the visual image, the negative belief flowing from it, and attendant

emotions and bodily sensations while being exposed to bilateral stimulation in repeated, dosed exposures. In each of these bilateral stimulation episodes, the patient held all these elements in mind while moving his/her eyes from side to side for 15 or more seconds, following the therapist's fingers or an alternate object as it is moved across the patient's visual field. As alternatives to finger movements, hand-tapping or aural stimulation were used. After each set of bilateral stimulation, the patient was asked what material arose during the stimulation. This material was the focus for the ensuing set of eye movements. The cycle of alternating focused exposure and patient feedback was repeated several times as the therapist looked for shifts in affect, physiological states, and cognitive insights.

Finally, the patient was instructed to pair the previously identified positive cognition with the original traumatic image as further bilateral stimulation took place. The efficacy of this phase was measured by the patient's self-reported VOC. An attempt was made to increase the VOC to a core of 6 or 7.

RESULTS

CASE I:

TK, a 58-year-old male M.D. oldest of three children, was born in Honduras and returned to the USA at age two with disruption of significant attachment to local Honduran caregivers.

At age 3 ½ his mother told him that his father had set the school record at his medical school. TK remembered feeling "hopeless", thinking, "there is no point to my life", and "I will never equal my dad's record."

In ninth grade Latin class TK made an F on a daily pop quiz and had his first suicidal thought: "I can't tell my parents; I'll have to kill myself before the final bell today."

After dropping out of his father's medical school in his first year, he taught high school, then returned and finished a different medical school. Later in psychiatric residency TK developed

alcoholism, tranquilizer and narcotic addiction, and sex addiction – primarily long term affairs.

After seven suicide attempts, 3 overdoses and 4 attempted hangings, TK spent 9 months in inpatient psychiatric treatment and has been in recovery for 20 years, active in AA (Alcoholics Anonymous), SLAA (Sex and Love Addicts Anonymous), and SA (Suicide Anonymous) since 1982, continuing individual therapy for 20 years, on no psychotropic medication. Free of suicidal thoughts from 1982 until 1997, he became overwhelmed on night call in September 1997 and experienced a sudden onset of suicidal thoughts of stabbing himself to death, lasting from 10:00 pm until midnight.

His CBT/EMDR focused around his first suicidal thoughts, the trauma of failing the daily Latin test, and finally his core belief of academic inadequacy, i.e. never equaling his father's medical school performance.

TK has been free of suicidal thoughts for 5 ½ years.

CASE II:

HS, a 55-year-old female R.N. middle child, was sexually abused by her father from age 4 to age 8.

At age 7 her parents forgot to pick her up after she returned from Brownie camp. She remembered feeling “hopeless”, thinking, “I don't matter. Nobody cares. I'm going to dig a hole and bury myself.” This was her first suicidal thought.

HS's father died by suicide when she was 11. Both her parents had struggled with depression and her mother was treated with ECT. Two of her four brothers suffer from depression.

At age 17 she was raped by an army sergeant, and at age 20 she was raped by 4 men.

After at least 4 suicide attempts by overdose and a lifelong struggle with dysthymia, major depression, posttraumatic stress disorder and anorexia/bulimia, HS has been in recovery for 10 years in AA (Alcoholics Anonymous) and SA (Suicide Anonymous), in individual therapy, on Effexor, Buspar, Desyrel, and Risperdal. She had struggled with suicidal thoughts “every day of my life since I was

seven.”

Her CBT/EMDR focused around her first suicidal thought and her father’s suicide, the trauma of her abandonment, and finally her core belief of “I don’t matter.”

HS has been free of suicidal thoughts for 1 1/2 years.

Case III:

WM, a 41 year old married female PhD fourth of five children, sought help for chronic depression and lifelong suicidal preoccupation since the age of 18 when her 19 year old brother died of cancer, and she concluded “I’m the bad one-it should have been me-you have to die to be good.”

She described her father as a workaholic and related that she had become an overachiever and perfectionist as a way of trying to gain his approval. Her mother was described as matter-of-fact and emotionally distant.

WM has been in recovery from alcoholism since 1988, in AA (Alcoholics Anonymous) and SA (Suicide Anonymous), stable on Prozac and Serzone.

During CBT/EMDR she targeted the trauma of her brother’s death and her cognitive response to the event: “I’m the bad one-it should have been me - I always knew that I should be the one to die.” She became acutely aware of an earlier physical trauma at age 7 by her father and realized that this event marked the actual beginning of her suicidal thought process. She was aware of being unable to escape physically and recalled associating suicide as “an escape when you feel trapped and controlled.”

WM has been free of suicidal thoughts for 21 months.

Case IV:

RH, a 58-year-old female teacher and minister, was hospitalized in an inpatient psychiatric facility as the result of severe depression related to a diagnosis of breast cancer.

She was abandoned by her natural mother and raised by her maternal grandmother until the age of 8. When her grandmother died she was forced to live with her mother and siblings. At the age of 8, at

her grandmother's funeral, she made a "pact" with herself: "If the pain becomes too much, I have an out". "Suicide became my most reliable coping strategy." "It was a button that I kept in my pocket, but in time it took on a life of its own and I had to push it away with the greatest of force."

In the years ahead RH felt isolated, different, and unloved. She was unable to grieve for her grandmother or to "feel anything – life was surreal". She described her mother as icy and unwilling to comfort her or hear her anguish. Suicidal thoughts were all the comfort she knew, and they continued to be her source of "a pseudo-empowerment – something that was mine and that no one could take away."

She has struggled with recurrent major depression and has been on Prozac.

RH's CBT/EMDR focused on her initial associations of trauma (the loss of her grandmother) and suicide as an "out" or source of comfort. She reported a complete elimination of suicidal thoughts, stating "the button is gone – I don't need it anymore".

RH has been free of suicidal thoughts for 10 1/2 months.

Case V:

KA, a 44-year-old female pharmacist youngest of five children, was severely physically and emotionally abused by her mother from ages 8 – 17 and by her first husband from ages 21 – 37. In addition, her first husband raped her repeatedly, and her older cousin sexually abused her at age 15.

Shortly after the first abuse by her mother, KA had her first suicidal thought: "I ought to fall out of the back of this truck and get run over." She remembered feeling "hopeless", "ugly", "good for nothing", and thinking, "there is no point to my life." She had struggled with suicidal thoughts "almost every day of my life since age 8" but denied any overt suicide attempts – only self-injury patterns under stress.

KA has struggled with dysthymia, major depression, and posttraumatic stress disorder and is stable on Celexa and Buspar. She has been in recovery in SA (Suicide Anonymous) for 2 years.

Her CBT/EMDR focused around her first suicidal thought, the sexual abuse, and her core belief

of feeling “ugly and good for nothing.”

KA has been free of suicidal thoughts for 27 months, with a significant reduction in self-injury thoughts and behaviors.

DISCUSSION

Results of these five cases suggest that CBT/EMDR is a useful technique to reduce the frequency and intensity of suicidal thoughts in childhood trauma victims.

THE LIFE STANCE

A person’s accumulated experiences, in particular those of childhood and adolescence, result in a set of beliefs, expectations, and assumptions about the self, others, and the world. Middleton-Moz, expanding on the earlier work of Adler and others, described an individual’s set of core beliefs and expectations as a life stance (Middleton- Moz, 1991). The components of the life stance are: (1) I am...(2) People are...(3) Life is... and (4) Therefore I will. The brain seems to attune to experiences in the environment which support the beliefs, expectations, and assumptions made in childhood and adolescence and to ignore or minimize information to the contrary. Therefore, negative beliefs that are a result of painful and traumatic experiences are automatically reinforced throughout the life span. Individuals who experience trauma in early life are likely to develop a negative life stance in all four areas.

As a result of these and similar assumptions made by the individual, future experiences may be felt and perceived through the lens of unprocessed traumatic events. The core beliefs associated with traumatic events in turn effect the individual’s thoughts and behaviors (therefore I will). A person who is preoccupied with suicide may have experienced an early traumatic event(s) and as a result may have developed a life stance similar to the following:

I Am:	helpless, trapped.
People Are:	demanding, unsafe.
Life Is:	a struggle, a test.

Therefore, I Will: stay in control, not ask for help, get out by killing my self.

As long as the events and experiences which created such core beliefs are unprocessed (not grieved, out of awareness, and/or “cellularly trapped”), then the beliefs remain intact and continue to influence perception of current events as well as to drive behaviors and reactions (Smyth, 1994).

TRAUMATIC MEMORIES: ARE THEY “TRAPPED” IN THE BRAIN FOREVER?

It has been recognized for more than a century that “when people become too upset by their emotions, memories cannot be transformed into a neutral narrative” (Janet, 1919). The ensuing terror “results in a phobia of the memory that prevents the integration of the traumatic events and splits the traumatic memories from ordinary consciousness” (Janet, 1893).

Today we know that these traumatic events are encoded differently from other common and less overwhelming experiences (Nadler, 1996, van der Kolk, 1997). In the process of encoding, these events become “trapped” in a particular circuitry in the brain called “Intermediate Memory Storage” (Smyth, 1994).

The precise anatomical location of this circuitry in the brain is not known, but modern technology, including magnetic resonance imaging (MRI) and positron emission tomography (PET scans), have identified probable locations for such circuitry. Multiple studies have localized the encoding of traumatic events to the right hemisphere of the brain (Semple, etal, 1993, Rauch, etal, 1996, Shin, etal, 1997, van der Kolk, 1997, Huber, 2001). The right hemisphere has long been identified as “the emotional half of the brain” in contrast to the left hemisphere, or “reasoning half of the brain”.

Further, studies have localized the encoding to right limbic and paralimbic structures, especially the amygdala and hippocampus (Rauch, 1996, van der Kolk, 1997). These two structures appear to be “the front lines” for encoding and processing emotionally traumatic events. Of all areas in the brain the amygdala is most clearly implicated in the evaluation of emotional meaning of incoming stimuli (O’Keefe

and Bouma, 1969, Mac Lean, 1985, Le Doux, 1986,). Moreover, it is thought to integrate internal representations of the external world in the form of memory images with emotional experiences associated with those memories (Calvin, 1990). Le Doux concluded that encoding in the amygdala is indelible, leading him to assert that “emotional memory may be forever” (Le Doux, 1986). Finally, after assigning meaning to sensory information, the amygdala guides emotional behavior by projections to the hypothalamus, hippocampus, and other brain structures (Le Doux, 1986, Adamec, 1991, Squire and Zola – Morgan, 1991).

The hippocampus, on the other hand, is thought to record in memory the spatial and temporal dimensions of experience and to play an important role in the categorization and storage of incoming stimuli in memory (van der Kolk, 1994). Proper functioning of the hippocampus is necessary for explicit or declarative memory (Squire, 1991). Hippocampal damage is associated with hyper-responsiveness to environmental stimuli (Altman, etal, 1973, O’Keefe & Nadel, 1978).

The hippocampus matures slowly and, in fact, is not fully myelinated until after the third or fourth year of life (Jacobs, 1985, Schacter, etal, 1982). When stress interferes with hippocampal memory storage, it is likely that some mental representation of the experience is laid down by a system that records affective experience but has no capacity for symbolic processing and placement in space and time (van der Kolk, 1994). Recent neuroimaging studies and MRI studies suggest that trauma – related stimuli induce exaggerated activation of the amygdala as well as hippocampal damage with decreased volume (Rauch, 1998).

Finally, one neuroimaging study performed during flashbacks demonstrated significantly increased activity in the right visual association cortex along with decreased activity in Broca’s area in the left hemisphere (the so-called “speech center”) (Rauch, etal, 1996). These findings are consistent with the fact that traumatic memories usually consist of emotional and sensory states, with little verbal representation.

Therefore, traumatic encoding in the circuitry called “Intermediate Memory Storage (probably the right amygdala and hippocampus and adjacent areas) leads to memory which has no concept of linear time (past, present, and future), and the events are therefore perceived as having just happened, as happening now, or as about to happen. This may result in continued posttraumatic symptoms experienced as a chronic state of hyperarousal, reenactments of traumatic experiences, flashbacks of traumatic events, nightmares, and/or spontaneous regressions which occur when current situations similar to the original trauma(s) trigger old emotional responses and reactions.

SUICIDAL THOUGHTS: WHERE DO THEY GO?

In our culture, suicidal thoughts probably arise in the context of trauma or perceived trauma. Today, a person does not wake up and say, “What a wonderful day; I think I’ll kill myself!” By contrast, in previous times, especially in the early days of Christianity, a person might have chosen suicide in order to go to a better world (Alvarez, 1971). In such a context of martyrdom suicidal thoughts probably would not have had an emotionally traumatic component!

If, in fact, suicidal thoughts arise in the context of real (or perceived) emotional trauma in today’s world, then such thoughts should take on the above mentioned trauma characteristics: 1) encoded (possibly indelibly) in the amygdala and hippocampus, the so-called Intermediate Memory Storage circuit, 2) perceived as having no past, present, or future, 3) experienced in a state of hyperarousal or flashbacks, and 4) occurring when current situations similar to the original trauma(s) trigger old emotional responses and reactions.

Again, as long as old, painful experiences (including suicidal thoughts) are “trapped” in this Intermediate Memory Storage circuit, the resulting negative beliefs about self, others, and the world remain the same in spite of efforts to alter them through insight and traditional therapies (van der Kolk, 1994).

The following criteria help determine whether a memory is “trapped” in Intermediate Memory

Storage:

- (1) The person experiences repetitive nightmares of the event(s) and/or has dreams which are thematically similar to the trauma(s),
- (2) The person has repetitive flashbacks or/and intrusive recollection of these events,
- (3) The person experiences regressive emotional responses to current stimuli or situations which resemble the original trauma (thus a suicidal person may associate suicidal thoughts to all future scenarios in which they feel trapped if the original suicidal thoughts occurred during a time when one felt trapped), and
- (4) The SUDS or Subjective Units of Distress are continuously VERY high when the person recalls or focuses on the event(s) regardless of the amount of time that has passed or how much the person has verbally processed the event. SUDS are usually measured on a scale of 0-10, with 0 representing neutral and 10 the highest amount of distress a person can feel.

EMDR: WHAT HAPPENS?

No one knows exactly how EMDR works, and yet EMDR has been shown to be effective in reducing the intensity of subjective distress related to traumatic memories (Shapiro, 1989, van der Kolk, 1994, Herman, 1997, Cahill, et al, 1999, Spector, 1999, Sprang, 2001). The name “EMDR”, however, may be incorrect since several studies have demonstrated that eye movements are not necessary for a therapeutic response (van der Kolk, 1994, Herman, 1997, Lohr, et al, 1998, Cahill, et al, 1999). Other forms of alternate bilateral stimulation of the brain, including sounds (clicks) and touch (hand or knee taps), are equally effective (Herman, 1997).

PET scans of trauma victims after EMDR demonstrate significant changes as compared to their PET scans before EMDR, including increased activity in the frontal lobes of the cerebral cortex, the so-called seat of “reason”, and decreased activity in the limbic system (including the amygdala and

hippocampus), the so-called seat of “emotions” (van der Kolk, 1997). Van der Kolk has theorized that EMDR somehow allows the frontal lobes to act as a filter, stripping the memories of their “emotional valence” (van der Kolk, 1997)

Thus, EMDR appears to allow the individual to focus on painful experiences stored in “Intermediate Memory Storage”, and to somehow “connect” these memories to the frontal lobes of the brain, allowing the individual to understand that the event is in the past and to apply insight to the event. Most importantly, this overall process dramatically reduces the subjective distress related to the memories. Individuals often report that following EMDR, the traumatic event seems remote and that the emotional distress associated with the event has been greatly reduced or neutralized. Individuals also report that they gain insight and perspective during EMDR and that the negative beliefs and expectations associated with these memories appear to “dissolve” and are replaced with more hopeful and positive cognitions.

As previously stated, persons with suicidal thoughts often can identify an early traumatic experience(s) which originally became associated with certain negative beliefs and the response of therefore I will/or can kill myself. Additionally, actual suicide attempts probably are experienced and stored as traumas and may result in a compulsion to reenact the trauma again and again (a common element in PTSD symptoms.) Repeated suicide attempts may reinforce the resulting negative beliefs and lock in suicide as the only perceived available adaptation to certain triggers and life situations. Such a progression would be consistent with the concept of “suicide addiction” (Tullis, 1998, Taylor, 2002).

In conclusion, our combination of CBT and EMDR appears to be an effective technique to reduce suicidal thoughts related to childhood traumatic memories and therefore to reduce suicidal behaviors and suicide attempts in certain childhood trauma victims.

FUTURE RESEARCH

The above cases are dramatic and probably represent the best possible outcome from this

technique. Patients with similar histories did not respond as well, and some did not respond at all. Future studies should focus on replication of our findings in larger samples as well as delineation of the variables which predict a positive response to this CBT/EMDR technique.

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