PTSD: Treatment Approaches with EMDR and Acupuncture

CAPTASA 10th Annual Conference
January 29-30, 2010
Lexington, KY

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OUTLINE

I: Trauma and its sequelae

II: Trauma in physicians

III: Literature review of treatment outcomes

III: Use of special approaches in the treatment of trauma

- EMDR
- Acupuncture

IV: Conclusion

Definition of Trauma

The diagnostic manual used by mental health providers (DSM IV-TR) defines trauma as, "involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate."

"The person's response to the event must involve intense fear, helplessness or horror (or in children, the response must involve disorganized or agitated behavior)."

Broader Definitions

- May include events that are not beyond the scope of normal human experience, as long as the event has had a traumalike impact on the person.
- What makes an event traumatic:
  - The severity of the event
  - The proximity of the experience
  - The personal impact of the event
  - The after-event impact

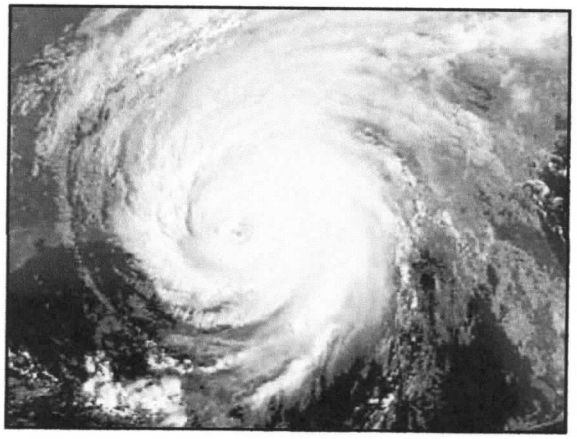
Healthcare Professionals and PTSD

- Most studies are with non-physician providers (EMTs), first responders
- Nearly all of those dealing with physicians/nurses are post disaster
- Much written on physician "stress and burnout" that does not specifically look at PTSD spectrum disorders

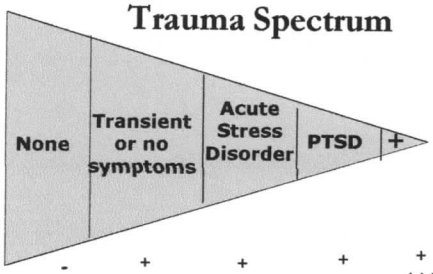
Potential Victims Of A Traumatic Stressor

Primary Victims	Those individuals most directly affected by the event, e.g., the persons whose houses are blown down in a hurricane.
2 Secondary Victims	Those individuals who in some way observe the consequences of the traumatic event on the primary victims, e.g., bystanders, rescuers, and emergency response personnel.
3 Tertiary Victims	Those individuals who are indirectly affected by the traumatic event as a result of later exposure to the scene of the trauma or to the primary or secondary victims of the trauma.

Stress Management and Disasters



Trauma Spectrum

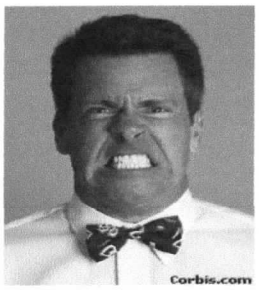


Trauma	-	+	+	+	+
Consequences	-	-/+	+	+	+++
Impairment > 30d		-	-	+	++
Re-experience, arousal and avoidant symptoms				+	++
Co-occurring syndromes					+

Notable Generalized Physician Characteristics

- Decision making is influenced by personal psychological factors and cultural factors.
- Many physicians have an authoritarian style with rigidity, inflexibility, and need for highly predictable environment.
- There is a strong drive for achievement and a fear of failure.
- They may respond to a disaster or other traumatic event with an attempt to maintain/ regain control by outwardly behaving as though everything is normal both internally and externally.

Personality Traits



- Type A behaviors
  - driven
  - competitive
  - individualistic
  - perfectionist
  - compulsive

Physician Specific Literature Review

Weisaiger, et al, Depts. Of Anesthesiology and Critical Care medicine and Psychiatry at Hadassah Hebrew University Medical Center, Jerusalem, Israel have 2 studies:

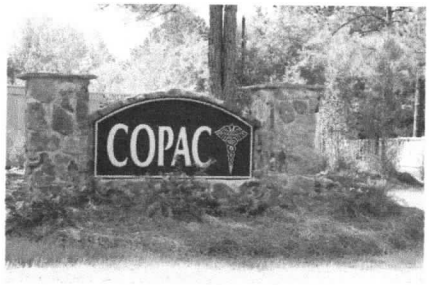
1. **PTSD among hospital surgical physicians exposed to victims of terror: a prospective, controlled questionnaire survey. J Clin Psychiatry 2006**
   1. 16% of hospital doctors during suicide-bombing attacks suffered PTSD symptoms
   2. There was no association between PTSD symptoms and professional exposure to victims of terror inside the hospital. (No vicarious traumatization.)
2. **Differences in psychological effects in hospital doctors with and without post-traumatic stress disorder. British J of Psychiatry 2008**
   1. 15.6% had PTSD symptoms
   2. No gender differences
   3. Those with PTSD were more exposed to terror outside of work
   4. Prevalence of lifetime exposure to traumatic events that could predispose to PTSD were the same
   5. Burnout was significantly more prevalent among doctors with PTSD
   6. Those with PTSD manifested more symptoms such as depression, anxiety, phobic anxiety, hostility, paranoid ideation, psychoticism, poor appetite, sleep disturbances, thoughts of death, guilt feelings, somatization, obsessive-compulsive symptoms, and interpersonal sensitivity
   7. Those with PTSD used more negative coping strategies and functioning was significantly reduced
   8. Only 15% of those with PTSD and who had identified themselves actually attended therapy (CBT)

Hodgetts et al form the Dept. Of Family Medicine at Queen's University in the Balkans Region Dept. of Primary Care and in Kingston, Ontario, Canada and the Dept. of Psychiatry Univ. of Tuzla, Bosnia and Herzegovina have published one study

1. **PTSD among family physicians in Bosnia and Herzegovina. Family Practice 2003**
   1. Study was done > 6 yrs. After the war
   2. 88% of the physicians experienced a traumatic event during the war, and 18% of these met criteria for PTSD
   3. Not affected by age, gender, or working in a field hospital

Important screening question from the Bosnian study

- "Do you think the traumatic event you experienced during the war still affects you today?"
  - Highly associated with the diagnosis of PTSD (odds ratio 7.26, 95% confidence interval)
  - High degree of sensitivity (89%)
  - High degree of negative predictive value (95%)
  - Thus, if the response is "no" it is fairly certain the condition does not exist. If "yes", the condition may or may not be present and further testing is needed.



Validity of PTSD is Well-Established

- PTSD has proven to be a very useful and valid diagnosis after 25 years of clinical use
- Although there have been minor revisions to the diagnostic criteria the core concept has withstood the test of time

Matthew Friedman

Exec. Dir. Nat'l. Ctr. For PTSD

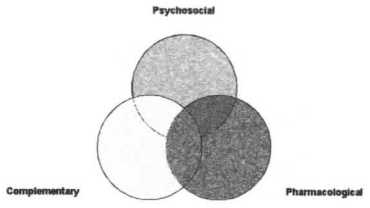
Review of Treatment Outcomes in SUDs with PTSD

- **Older studies show those with co-morbidity have more psychiatric symptoms, greater intrapersonal distress,** (Najavits et al,1998;Ouimette et al,1998) **relapse sooner,** (Brown et al,1996) **have worse compliance with aftercare,** (Brady et al, 1994) **and more frequent inpatient treatments.** (Brown et al, 1995)
- **Rate of PTSD in those in treatment for SUDs is reported to be 30-59%.** (Stewart et al,2000)
- **Physiological arousal in response to memories of the traumatic event act as cues that increase cravings or trigger relapse** (Steindl et al, 2003)
- **There are some reports that events that can trigger memories of prior trauma can also act as a relapse cue** (Stewart et al, 2000)

Outcomes in Recent Literature

- Up to 89% of those with SUDs report experiencing a lifetime trauma (Farley et al, 2004) and in a recent study over 80% met criteria for at least one symptom cluster. (Norman et al, 2007)
- Often have similar functional impairment, physical problems, and increased use of services
- There is a growing literature that those with substance dependence with PTSD or partial-symptom PTSD do NOT consistently have poorer addiction outcomes (Ouimette et al, 1997; Read et al, 2004; Trafton et al, 2006; Norman et al, 2007)
- Possibility is that relapse to substance use may impede remission of PTSD rather than PTSD leading to poorer substance outcomes.
- Those with trauma histories do have more depression, anxiety, PTSD, and other psychiatric symptoms, excluding psychosis. This predicted an increased likelihood of relapse in the specifically in negative intrapersonal contexts of anger, fear, and depression. (Norman et al, 2007)

Therapeutic Options



What is EMDR?

- Eye Movement Desensitization and Reprocessing – Developed by Francine Shapiro, PhD
- Involves eye movements or other forms of bilateral stimulation
- Information processing model of learning
  - IP model of Lang (1977;1985) described 3 systems of information related to emotional experiences that are organized and stored as semantic memory.
- Uses three-pronged approach
  - Past: Memories of past experiences associated with present difficulties
  - Present: Current disturbances and triggers that come up in the present
  - Future: Anticipation of future scenarios to create a template for future action

Neural Pathways of PTSD

- ¥ **Amygdala is activated...triggering...**
- ¥ **Hypothalamus to signal the Pituitary for CRF.**
- ¥ **Locus Ceruleus for increased Norepinephrine.**
- ¥ **Opioid centers for increased endorphins...**

Courtesy of Dr. Uri Bergman

PTSD

- Flashbacks
- Intrusive thoughts
- Hyper-arousal
- Hypervigilence
- Numbing
- Intrusive somatic sensations…

How It Works

- Access relevant memory
- Stimulate brain with bilateral stimulation
- Move through channels of association until memory successfully resolved
- Adaptive Information Processing (AIP) Model of learning is used to explain how the brain processes perceptions
  - Cognitive (thoughts)
  - Affective (feelings)
  - Somatic (body sensations)

How It Works

- Memory is encoded with all that is experienced; the brain associates with other similar experiences (patterns) to generate learning
- Memory that has been successfully processed by the brain is resolved adaptively
- Traumatic memory is stored in its original form (a fear structure is stored in long term memory) as it occurred at the time of the event with its negative components and maladaptive conclusions. It is not integrated with other adaptive experiences – due to high levels of distress and/or inadequate information.
- EMDR acts as a catalyst for the AIP system. It allows memory to be reprocessed by accessing the existing memory network and other associations that were not available at the time of the event.
- The level of arousal is reduced during the process and more adaptive information is available to integrate with the original experience, thus changing the way it is stored in the brain.
- This allows the person to live more in the present in their lives.

Interfering with proper integration of emotional memories

Leading to

¥ Thoughts that perpetuate arousal: "It is my fault;" "I am being punished; "the world is not safe."

Inhibiting

¥ Thoughts that might attenuate arousal: "I did the best I could" "These things happen – you can't control everything" and "the world is usually safe, and fortunately I survived this event… It's over"…

Courtesy of Dr. Uri Bergman

How Well It Works

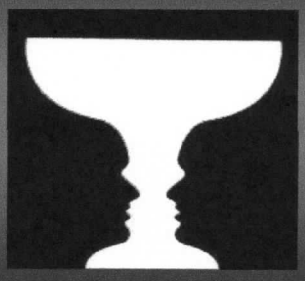
- Consensus has emerged in the literature that EMDR is as effective as (TF)CBT in treatment of PTSD
- 7 meta-analytic reviews have reached similar conclusions (Van Etten & Taylor, 1998; Chambless et al, 1998; Davidson & Parker, 2001; Bradley et al, 2005; NICE, 2005; Seidler & Wagner, 2006; Cochrane Review, 2008)
- EMDR is more effective than relaxation therapy, non-directive therapy, medication or waiting-list controls in treatment of PTSD
- Professional & Govt bodies such as APA (1998) and the Dept of Veterans Affairs USA (2004), have accepted that EMDR is an effective treatment for PTSD

CEREBRAL HEMISPHERES

¥ LEFT Dorsolateral Prefrontal Cortex - Executor	¥ RIGHT Orbitofronal Cortex - Executor
¥ Linguistic	¥ Self soothing
¥ Logical	¥ Non-verbal
¥ Linear	¥ Non-linear
¥ Verbal	¥ Self concept
¥ Generally conscious...	¥ Integrated map of the body
	¥ Unconscious..

Courtesy Dr. Uri Bergman

Two Faces or a Vase?



Singer, W. (1996). *The Mind Brain Continuum: Sensory Processes,* 101-130.

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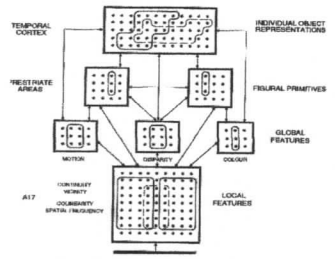
Distributed Sensorimotor Networks

THE SELF-ORGANIZATION OF PERCEPTUAL GROUPING IN A DISTRIBUTED SYSTEM



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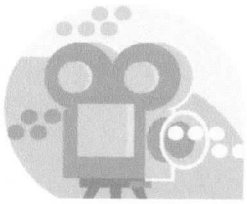
Appropriateness & Utility

- Quick
- Low-tech
- Portable
- Effective
- Proven for use with trauma
- Extensive use in military populations and veterans
- Limited verbal intervention

Session Clips



Acupuncture's Role in the Integrative Medical Care of PTSD in Addiction

Adam Schreiber, MAOM, Dipl. OM, R.Ac.

A Brief History of Acupuncture

- Acupuncture is one branch of a complete system of medicine known as Oriental Medicine, which has developed over the course of thousands of years.
- Theories underlying traditional Oriental Medicine are largely based on observing the natural world.
- Oldest written medical information ~ 168 BCE

The Human Body

- Acupuncture theory sees the body as a microcosmic representation of the universe (e.g. meridians of the body are analogous to the waterways of the earth).
- Organs of the body are considered more for their *functions* than for their *structure*.

The Concept of Qi (Chi)

- Translated as "life energy" or "vital energy".
- OM defines Qi by the *function* it performs in the body. Qi is responsible for all physiological functioning in the body.
- Qi is derived from three main sources: air we breathe, food we eat, & inherited.
- Qi flows through the body via channels, or meridians, that correspond to particular organs or organ systems.
- Meridians are pathways which qi follows as it flows around the body.
- Trauma = the scattering of qi.

Biomedical Theories of How Acupuncture Works

- "Gate Control theory" – acupuncture stimulates nerve fibers which signal for inhibition of pain.
- "Endorphin theory" – stimulates release of endorphins, serotonin, norepinephrine and ACTH – all implicated in pain relief.
- "Connective Tissue theory" – acupuncture creates changes in connective tissue which impact the body at the cellular level via mechanotransduction.

1. Langevin HM, Churchill DM, Cipolla MJ. Mechanical signaling through connective tissue: a mechanism for the therapeutic effect of acupuncture. *FASEB J.* 2001;15:2275-2282.

NIH Consensus Statement Conclusions *JAMA*, Nov. 1998

- Limitations of current studies
  - Design, sample size, appropriate use of controls and sham groups
- **Conditions in which acupuncture may be useful as an alternative or adjunctive treatment in which there are promising results showing efficacy**
  - Adult post-op and chemotherapy nausea and vomiting
  - Post-op dental pain
  - Addictions
  - Stroke rehab
  - Headaches
  - Menstrual cramps
  - Fibromyalgia
  - Tennis elbow
  - Myofascial pain
  - Osteoarthritis
  - Low back pain
  - Carpal tunnel syndrome

Partial Literature Review

- Hollifield, et al. **Acupuncture for PTSD: a randomized controlled pilot trial**. J of Nervous and Mental Disease June, 2007
  - Participants randomized to acupuncture, group CBT, or wait-list. They were analyzed for depression, anxiety, and impairment
  - Primary outcome was self-reported PTSD symptoms at baseline, end treatment, and 3-month follow-up
  - Results showed large treatment effects for acupuncture group similar in magnitude to group CBT
- Pease M, **Acupuncture for refugees with PTSD: experiences establishing a community clinic**. Explore (NY), 2009
  - Used NADA protocol
  - Significant self-reported reduction in symptoms (most common were recurrent nightmares, anxiety, pelvic pain, and back pain)
- **Sticking it to PTSD-Ear acupuncture helps Veterans in Vermont**. Thelasthealer.wordpress.com/2009
  - NADA protocol used in Vermont and community Veterans' clinics from Oregon to Florida with others scheduled to open
  - One Veteran summed it up: "There ain't no quick fix, there ain't no magic bullet; we're still suffering the results (of Vietnam). Guys like myself, we have lightning-fast responses, hyper-vigilance and startle reflexes, so we have no problem getting in touch with our 'zero to 60 in one second.' But we're just the opposite when it comes to finding the peaceful side, the relaxing side. And that's what acupuncture, more than anything I've found, did for me."

Appropriateness & Utility

- Quick
- Low-tech
- Portable
- Effective
- Extensive use in military populations and veterans
- Limited verbal intervention (pt. does not have to lie and doesn't matter if they do)
- Patients can receive treatment even before developing a therapeutic relationship with the staff
- Patient relaxes without the sensation of losing control

Conclusion: Stages of Healing that Can Be Facilitated by These Approaches

1. **SAFETY:** In this phase the goals are to free yourself from substance abuse, stay alive, build healthy relationships, gain control over your feelings, learn to cope with day-to-day problems, protect yourself from destructive people and situations, not hurt yourself or others, increase your functioning, and attain stability.
2. **MOURNING:** Once you are more safe, you may need to grieve about the past, about what your trauma and substance abuse did to you. You may need to cry deeply to get over the losses and pain you experienced: loss of innocence, loss of trust, loss of time.
3. **RECONNECTION:** After letting yourself experience mourning, you will find yourself more willing and able to reconnect with the world in joyful ways: thriving, enjoying life, able to work and relate well to others. You *will* get to this stage if you can establish safety.

Adapted from Herman, Trauma and Recovery, 1992