Gunnar Ebbesson, LPCS MAC CDCS
Joseph Nowell, LPCS MAC NCC

TURNING POINT COUNSELING SERVICES

The Treatment of Trauma in Substance Use Disordered Clients
Today's Presentation

- Current research on trauma in addicted populations
- How do we define trauma?
- What happens to the brain after trauma?
- Diagnosing Post Traumatic Stress Disorder
- What happens when a traumatized client stops using drugs including alcohol?
- Treating trauma in a SUD population
National Comorbidity Survey

- PTSD prevalence: 5% males, 10% female
- Among those with PTSD:
  - Alcohol use disorders prevalence: 51.9% among males; 27.9% among females
  - Drug use disorders (excl nicotine): 34.5% among males, 26.9% among females

Kessler et al. (1995) Arch Gen Psychiatry 52:1048-1060
More recent studies

- More than half of women seeking substance abuse treatment report one or more lifetime traumas (Farley, Golding, Young, Mulligan, & Minkoff, 2004; Najavits et al., 1997).

- A significant number of clients in inpatient treatment also have subclinical traumatic stress symptoms or posttraumatic stress disorder (PTSD; Falck, Wang, Siegal, & Carlson, 2004; Grant et al., 2004; Reynolds et al., 2005).

- People who abuse substances and have experienced trauma have worse treatment outcomes than those without histories of trauma (Driessen et al., 2008; Najavits et al., 2007).
Defining Trauma - Traumatic events

- All trauma is real, and trauma is experienced in the brain.
- It is on a continuum, and how it effects a person depends on their resilience and risk factors.
- Little t, big T
- Traumatic memory is typically outside of our ability to remain emotionally connected to the situation.
- So we begin a process of distancing ourselves from the experience through a variety of different ways such as, dissociation, avoidance, substance abuse or other ways of not dealing with what happened.
How the DSM V Defines PTSD level trauma

* The DSMV defines trauma as exposure to actual or threatened death, serious injury or sexual violation. The exposure must result from one or more of the following scenarios, in which the individual:
  
  * directly experiences the traumatic event;
  
  * witnesses the traumatic event in person;
  
  * learns that the traumatic event occurred to a close family member or close friend (with the actual or threatened death being either violent or accidental); or experiences first-hand repeated or extreme exposure to aversive details of the traumatic event (not through media, pictures, television or movies unless work-related).
The **amygdala** is responsible for “fight or flight or freeze”.

Another part of the brain is the **hippocampus**, which is just above the amygdala.

The hippocampus applies context to the situation (emotional stamp), and helps to regulate the amygdala and other functions in the brain.

**Prefrontal cortex** is responsible for emotional regulation and executive functioning.

*Restak, 1988*
What happens to the brain after psychological trauma?

- Neuroimaging studies demonstrate specific changes in the brains of people with PTSD such as increased activity in the amygdala, decreased activity in the medial prefrontal cortex, and reduced hippocampal and anterior cingulate cortex volumes (Garfinkel & Liverzon, 2009; Hughes & Shin, 2011).

- Neurochemical changes have also been found in people with PTSD, including increased dopamine levels, increased norepinephrine levels and/or activity, decreased levels of serotonin in parts of the brain, (Sherin & Nemeroff, 2011). Brenner (2011), Garfinkel and Liverzon (2009), Hughes and Shin (2011), and Sherin and Nemeroff (2011)
The most significant neurological impact of trauma is seen in the hippocampus. PTSD patients show a considerable reduction in the volume of the hippocampus. This region of the brain is responsible for memory functions. It helps an individual to record new memories and retrieve them later in response to specific and relevant environmental stimuli. The hippocampus also helps us distinguish between past and present memories.

It brings the experience into context, and when impaired, it loses this ability.
What happens with memory after trauma

- **Adaptive memory processing** is what happens when our brain processes difficult experiences as intended.

- During **Traumatic memory processing** the memories get stored differently, likely due to increased activation at time of trauma.

- Traumatic memory doesn’t get processed in the same way and the brain doesn’t know what to do with it, so it gets incapsulated.

- Memories get stored in a way that whenever they come up, they feel like it’s now, unlike normal memories that become more distant as time passes.
Prefrontal Cortex (PFC)

Severe emotional trauma causes lasting changes in the PFC region of the brain that is responsible for regulating emotional responses triggered by the amygdala. Specifically, this region regulates negative emotions like fears that occur when confronted with specific stimuli. PTSD patients show a marked decrease in the volume of ventromedial prefrontal cortex and the functional ability of this region. This explains why people suffering from PTSD tend to exhibit fear, anxiety, and extreme stress responses even when faced with stimuli not connected – or only remotely connected – to their experiences from the past.
Trauma appears to increase activity in the amygdala. This region of the brain helps us process emotions and is also linked to fear responses. PTSD patients exhibit hyperactivity in the amygdala in response to stimuli that are somehow connected to their traumatic experiences. They exhibit anxiety, panic, and extreme stress when they are shown photographs or presented with narratives of trauma victims whose experiences match theirs; or made to listen to sounds or words related to their traumatic encounters.
So how does this play out?
Let's walk through how the brain operates.

A stimulus occurs; it could be any stimulus either external or internal.

*LeDoux, 1996*
Between stimulus and response

The stimulus is immediately sensed by the thalamus.

*LeDoux, 1996*
Between stimulus and response

The stimulus is transmitted very quickly to the amygdala.

The amygdala is built for survival. It is the flight, fight, or freeze mechanism.

It is an immediate response. You do not even think about it; it just happens.

LeDoux, 1996
Between stimulus and response

Then, split seconds later, the same stimulus is relayed to the cortex and the hippocampus.

This is where memory and context come into play. An emotional stamp is placed on the stimulus...
What do you do? You jump.

Maybe you get sweaty for a minute; you might begin to slightly move your body as if you were going to get up and run out. That is your amygdala reacting to the sound stimulus.

But immediately afterward, your cortex and your hippocampus translate the stimulus and you say, “Wait a minute; I’m sitting in this room; I haven’t been hurt by sitting here and hearing a door slam.”

So you relax and get back to the training. Your response is to relax again.

Example: All of a sudden the door in the back of the auditorium slams shut.
Between stimulus and response

But what if you’re at the Empire State Building in NYC, on the 80th floor, and you hear that very loud BANG?

What happens to people in New York on the 80th floor now … after 9/11?

They might just run out of the room, not only because their amygdala is activated, but because the context created by the hippocampus has changed since the 9/11 tragedy.

LeDoux, 1996
So what happens is that we have an immediate response. This is what happens to people with traumatic stress. Their amygdala is activated, their capacity to wait for the “context” is diminished, and they respond rapidly to a perceived threat or emergency and shift into an ‘emergency state of behavior’.

LeDoux, 1996
Between stimulus and response

What else happens?

The structures of the brain can be altered by trauma. The cortex can shrink.

The amygdala can decrease in volume, and the hippocampus can atrophy.

The structures and function of the brain are changed.

LeDoux, 1996
Between stimulus and response

What does this mean?
The experience of trauma can compromise the individual’s functioning. Processing of information in the “rational” parts of the brain is impaired, and slower.

There are several studies that have repeatedly demonstrated the damage to the hippocampus and the cortex as a result of traumatic exposure. Impairment in neurological and cognitive functioning results.

Context and understanding are sacrificed for speed and survival.

LeDoux, 1996
COMMON REACTIONS TO TRAUMA

ANGER  CONFUSION  SADNESS  WORRY
NUMBNESS  HURT  HURT  FEAR
BELIEF  SHOCK  DISBELIEF  RAGE!  ANXIETY
MINIMIZATION  REVULSION  GUILT  GUILT
WITHDRAWAL  DENIAL  SHAME  BETRAYAL
JEALOUSY  DESPAIR  SELF-BlAME
PANIC  DOUBT  REVENGE!
Diagnosing Trauma and Stress related disorders

- Re-experiencing
- Avoidance
- Negative cognitions and mood
- Arousal
- Time
What happens when a client with Trauma stops using?

- We have asked them to stop using their primary coping strategy
- Double whammy of PFC hypofrontality
- Trigger city
- The very thing these people use to make decisions is compromised
- Mixed gender in groups
- Social anxiety
- Institutional fear
- Numbing/shut down
Treating trauma based on brain science

- Frontal cortex - emotional regulation, interoception is impaired
- Hypocampus is working poorly - chronicity, flashbulb memories etc.
- Amygdala is an 800 lb gorilla
- Neurochemical changes - norepinephrine, dopamine and serotonin
How to intervene on the traumatized mind

Social Environmental Intervention

Mindfulness/Yoga Neurofeedback

Desensitize traumatic memories

Psychopharmacology

Sensory Thalamus

Cortex

Hippocampus

Amygdala

Stimulus

Response

Very Fast

LeDoux, 1996
Safety as a starting point for the work

- Therapists must create a safe, trigger free environment for the healing to even begin
- Creating and then holding a space for the healing to happen
- Trauma work takes time.
- Keep people within their window of tolerance.
Some of the do’s and don’ts

[* Do* position yourself in your office where the patient has the ability to leave without going through you.

* Do* be prepared for traumatic material to come out during therapy

* Do* educate clients on trauma, how it works in the brain, and what to expect during therapy

* Do* give your clients permission to ask for help if they are overwhelmed

* Do* learn and use de-escalation techniques

* Do* Attune. Attunement is key to co-regulation

* Do not* respond negatively or judgmentally to what you hear

* Do not* dismiss the relative pain someone is experiencing

* Do not* push the clients into working on things they don’t feel ready to work on
Pre Frontal cortex

- Mindfulness training - emotional regulation, interoception
- Yoga - interoception
- Who am I?
- DBT
- Neurofeedback
Hypocampus

- EMDR/Brainspotting
  - Reduces the energy around their traumatic memories
  - Over time reduces overall hyper arousal
  - Empowers them to be able to confront their past
  - Helps with 4th step
Amygdala/neurochemical changes

- Pharmacotherapy to stabilize the system
- Prazosin- nightmares- adrenaline
- Antidepressants
- Antipsychotics
- Mood stabilizers
Implications for SUD treatment

- Discerning the timing for working on the trauma
- Evaluating relapse risk
- Preparing clients for the process of healing from trauma
- Capitalizing on the skills we teach for relapse prevention
Resources

* SAMHSA TIP 57 Trauma informed care in behavioral health services.

* Bessel van der Kolke: The body keeps the score.
Date:
Friday
August 26th – Sunday
August 28, 2016.

Location:
Turning Point Counseling Services
315 5th Ave
Fairbanks, AK 99701
907-374-7776
THANK YOU!

Turning Point Counseling Services
Turningpointcounselingservices.com
tumingpointcounselingservices@gmail.com
(907)374-7776
A. The person was exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence, as follows:

1. Direct exposure

2. Witnessing, in person

Criterion A continues on next slide.
DSM-5: PTSD Criterion A

Criterion A (continued):

3. Indirectly, by learning that a close relative or close friend was exposed to trauma. If the event involved actual or threatened death, it must have been violent or accidental.

4. Repeated or extreme indirect exposure to aversive details of the event(s), usually in the course of professional duties (e.g., first responders, collecting body parts; professionals repeatedly exposed to details of child abuse). This does not include indirect non-professional exposure through electronic media, television, movies or pictures.
PTSD Criteria for DSM-5

B. Intrusion symptoms

C. Persistent avoidance of stimuli associated with the trauma

D. Negative alterations in cognitions and mood that are associated with the traumatic event

E. Alterations in arousal and reactivity that are associated with the traumatic event
DSM-5: PTSD Criterion B

B. Intrusion (1/5 symptoms needed)

1. Recurrent, involuntary and intrusive recollections *
   * children may express this symptom in repetitive play

2. Traumatic nightmares *
   * children may have disturbing dreams without content related to trauma

Criterion B continues on next slide.
DSM-5: PTSD Criterion B

Criterion B (continued):

3. Dissociative reactions (e.g. flashbacks) which may occur on a continuum from brief episodes to complete loss of consciousness *
   * children may re-enact the event in play

4. Intense or prolonged distress after exposure to traumatic reminders

5. Marked physiological reactivity after exposure to trauma-related stimuli
DSM-5: PTSD Criterion C

C. Persistent effortful avoidance of distressing trauma-related stimuli after the event (1/2 symptoms needed):

1. Trauma-related thoughts or feelings

2. Trauma-related external reminders (e.g. people, places, conversations, activities, objects or situations)
DSM-5: PTSD Criterion D

D. Negative alterations in cognitions and mood that began or worsened after the traumatic event (2/7 symptoms needed)

1. Inability to recall key features of the traumatic event (usually dissociative amnesia; not due to head injury, alcohol or drugs) (C3 in DSM-IV)

Criterion D continues on next slide.
DSM-5: PTSD Criterion D

Criterion D (continued):

2. Persistent (& often distorted) negative beliefs and expectations about oneself or the world (e.g. “I am bad,” “the world is completely dangerous”) (C7 in DSM-IV)

3. Persistent distorted blame of self or others for causing the traumatic event or for resulting consequences (new)

Criterion D continues on next slide.
DSM-5: PTSD Criterion D

Criterion D (continued):

4. Persistent negative trauma-related emotions (e.g. fear, horror, anger, guilt, or shame) (new)

5. Markedly diminished interest in (pre-traumatic) significant activities (C4 in DSM-IV)

6. Feeling alienated from others (e.g. detachment or estrangement) (C5 in DSM-IV)

7. Constricted affect: persistent inability to experience positive emotions (C6 in DSM-IV)
DSM-5: PTSD Criterion E

E. Trauma-related alterations in arousal and reactivity that began or worsened after the traumatic event (2/6 symptoms needed)

1. Irritable or aggressive behavior (revised D2 in DSM-IV)

2. Self-destructive or reckless behavior (new)

Criterion E continues on next slide.
DSM-5: PTSD Criterion E

Criterion E (continued):

3. Hypervigilance (D4 in *DSM-IV*)
4. Exaggerated startle response (D5 in *DSM-IV*)
5. Problems in concentration (D3 in *DSM-IV*)
6. Sleep disturbance (D1 in *DSM-IV*)