The Cutting Edge – Trauma, the new frontier of psychiatry

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Welcome to this first edition of UC Davis psychiatry leaflet! Short chronicles about trauma-related topics will be featured monthly.

The top of the book pile

The Glass Castle, by Jeannette Walls

Book pick by my book clubber. Another memoir. Not a big fan of those (after a clinical day, I usually prefer to prioritize fiction to give me a respite from the “memoir-hearing mode”). To make sure I wouldn’t waste money on another painful read, I borrowed it from the library. My reluctance mixed with skepticism was joined by some revulsion at the look of the general condition of the book when I picked it up: undulating, yellow pages, with some suspicious stains, and some tear. I actually experience some degree of torture any time books, as mediocre as their content might be, are so beaten up. Looking at my book collection, no one would guess I have actually read them (I guess my obsessive care in handling them is the reflection of their sacredness). So for me it was quite a flooding experience to start turning the pages without letting their miserable, off-putting condition, distract me.

So I started. Then I could hardly stop. This is an incredible story, an extraordinary illustration that reality goes beyond fiction. The narrator introduces the reader to her family consisting of two dysfunctional parents (eccentric would be a euphemism), maintaining their 4 children in an unspeakable state of poverty and exposing them to high risk situations. Despite the parents’ denial, obliviousness, confabulation and grandiosity reaching anti-social proportions, the children are unforgettable and their amazing intelligence and resilience as they survive epic adversities and heartbreaking ironies elevate them to the status of fairy tale heroes. I would urge everyone who seeks to find the good in children who experienced hardship to read that book. It is a mixture of tragedy and comedy, in just the right ratio to keep us reading despite experiencing shock after shock. The characters, vibrant and inspiring in their fascinating trajectory, haunted me, day and night. It is written with brio (and makes me grateful even for my not-so-idyllic childhood!).

Source:

Now that brain imaging made significant advancements and helped us better understand the underlying mechanisms of psychological disorders, we have to bring back brain science in psychiatry and apply this knowledge to our interventions. Trauma has a direct impact on brain development. The neurosequential model of therapeutics (NMT) is a logical practice framework that consists of 3 elements:

1. The assessment of the developmental history: nature, timing and intensity of adversities but also any counter-balancing relational, community or cultural buffers (so-called resiliency factors). The net balance will determine the level of toxicity of stress;

2. The review of the current functional status and the use of a heuristic visual map of the brain to get an estimate of the development and functional status of neural systems involved in many neuropsychiatric disorders;

3. The utilization of the results from the brain map to select and sequence interventions.

In sum, the NMT-directed interventions should be delivered sequentially to approximate a neurotypical development trajectory. Interventions therefore start with the lower brain areas and the most underdeveloped or abnormally functioning set of problems and move sequentially up to later-forming areas of the brain as improvements are seen.

The types of treatment will target the brain areas affected at the time of the developmental trauma. The earlier the trauma, the more likely the person will be arrested neurodevelopmentally at the lower, early-forming brain. Lower brain regulation (brainstem level) will require basic rhythmicity to establish the foundations for a sense of security, through music therapy (“Drumbeat”) and mind-body integration (yoga, tai-chi). Midbrain regulation (limbic system) usually applies to patients with moderate functional impairment and require activity-based emotional literacy group, or art therapy (“Sensory” group). For the least functionally impaired (from trauma that didn’t occur very early in the development), approaches that require greater prefrontal cortex functioning are CBT or ACT.

Each group lasts about 10 weeks, corresponding to a school term. The person can repeat or move on to more developmentally appropriate groups.

It is not clear how we could apply this to our adult populations, but as a general rule, it is important to assess the developmental age of the people we treat as it will help determine realistic goals and dictate the sequence of interventions. We know that for adults who consult with trauma-related disorders, the mind-body reintegration listed above for instance are beneficial.

Source:
The masks of PTSD

I think at this point, we all agree that the after effects of trauma can present in various ways: panic disorder, bulimia, addictions, depression, personality disorders, somatization etc.

One diagnostic entity that seemed to have been neglected though is bipolar disorder. Our belief that genetic factors play a significant role in the etiology is one explanation. But relatively high rates of discordance among monozygotic twins indicate the influence of additional mechanisms. There is evidence of decreased hippocampal glucocorticoid receptor expression, conducting to altered HPA stress response in several conditions associated with suicide (including schizophrenia and mood disorders). In a meta-analysis studying patients with psychotic disorders, there was a high rate of self-reported childhood abuse and neglect, ranging from 30% to over 75%. Additionally, maternal and paternal loss before age 5 increased respectively 4-fold and 2.4-fold the risk of bipolar disorder, not just depression as I was taught. Mania, just like depression, agoraphobia, OCD or impulsive conducts, is another expression of the attempts to heal from trauma that a people develop. It is important to remember that early traumatic interactions are more often found in the past of bipolar adult patients than general population. Therefore, as I tell my trainees, exploring the family history is not only informative of genetic influence but also ACEs. We should always ask how growing up with a “bipolar” parent for instance has affected the patient. Beyond the genetic vulnerability, there are alterations of brain structures involved in emotional regulation. Emotional abuse might lead to abnormal trajectories of maturation of emotional and impulsive regulatory processes. Additionally, toxic stress affect the immune, endocrinological, circadian, oxidative stress systems. Reverse causation is also possible: emotionally unstable child might be at risk of harsh discipline or emotional trauma when caregivers fail to find appropriate ways to cope. History-taking with emphasis on chronology is key; a comprehensive history will help us find the narrative that best explains the patient’s struggles rather than creating a long rosary of diagnoses (diagnoses can be viewed as symptoms of developmental trauma). Even individuals with severe mental illness can reliably report such ACEs. Screening for ACEs is essential to gain a deep understanding of the mechanisms beyond the DSM diagnosis. The sub-types and severity of trauma will affect prognosis regardless of the diagnosis. An in-depth analysis of the manifestations during mood episodes, including the identification of patterns and triggers will help disentangle the diagnosis stew that a lot of our patients find themselves paralyzed in from the lack of intersectional perspective using checklists only.

Source:


All in our head

Children of depressive mothers and children in both Asian and Eastern European orphanages in the first two years of life have a bigger amygdala\(^1\) (implication: hyperactive stress response systems (e.g., hypervigilance)) Larger amygdala:hippocampal volume ratios have been linked with increased problems related to emotion regulation.

Source:


On the accused bench: the con sleep aid: Ambien (zolpidem)! Better to use fresh, ambient air to sleep than AMBIEN! It is ineffective to facilitate sleep. Patients like it and think it works because it creates amnesia of the insomnia! Sleep walking and night eating are among the other charges... Sentence: taper and discard (and never start...)

Alternatives:
- Sleep and life hygiene (mindfulness, diet, exercise)
- Increase sense of general safety
- Trazodone
- Mirtazapine (7.5 mg -15 mg max hs)
- Hydroxyzine, diphenhydramine
- Melatonin

Source:

Tsai MG et al. Compulsive activity and anterograde amnesia after zolpidem use. Clinical Toxicology. 2007;47:179-181

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Among the other chronicles:
- Life review
- The art of wellness
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