Impact of Trauma on Children & Young People's Behaviour

- A BSCP multi-agency lunchtime briefing

Dr David OSOBA,

- Neurodevelopmental (Community) Paediatrician and Designated Doctor for Safeguarding CYP, SEL ICB, Bromley.

South East London Integrated Care System

❖ *"Witnessing or experiencing an event that poses a real or perceived threat to life or well-being of the child or someone close to the child"*

"The event overwhelms the child's ability to cope and causes feelings of fear, helplessness or horror, which may be expressed by disorganized or agitated behaviours

From the NCTSN Child Welfare Trauma Training Toolkit

The ACE Study revealed five main discoveries:

ACEs are common, nearly two-thirds (67%) of adults have at least one.

They cause adult-onset chronic diseases, such as cancer and heart disease, as well as mental illness, violence and being a victim of violence.

ACEs don't occur alone. if you have one, there's an 87% chance that you have two or more.

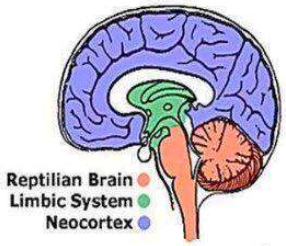
The more ACEs you have, the greater the risk for chronic disease, mental illness, violence and being a victim of violence.

ACEs are responsible for a big chunk of workplace absenteeism, and for costs in health care, emergency response, mental health and criminal justice. So, the bottom line of the ACE Study is that childhood adversity contributes to most of our major chronic health, mental health, economic health and social health issues.

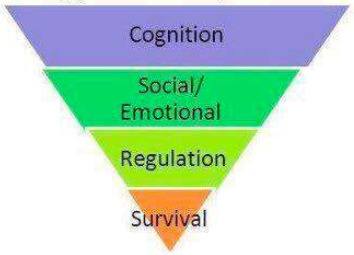
"Trauma affects the mind and body immensely and prevents those affected from living in the present"

Bessel van der Kolf, MD

Trauma & Brain Development



Typical Development



Developmental Trauma

Adapted from Holt & Jordan, Ohio Dept. of Education

South East London Integrated Care System

Ways Childhood Trauma Changes a Child's Brain and Body

Hormone level changes: Cortisol and adrenaline are the "stress hormones" that help you react to a perceived threat or danger by directing blood flow to major muscle groups and bypassing the thinking part of the brain to activate the survival part.

- High levels of these hormones keep your blood pressure elevated, which weakens the heart and circulatory system; keep your glucose levels elevated, which can lead to type 2 diabetes; and disrupt your immune system and inflammatory response system, which can lead to lupus, multiple sclerosis, osteoporosis, abdominal obesity, and depression, and reduce your ability to fight infection.
- Hormone level changes early in life when brain development is most rapid can have a drastic impact on brain architecture and function, as well as other organs, thus lifelong physical and mental health problems.

Ways Childhood Trauma Changes a Child's Brain and Body

Immune system changes: Through multiple organs, tissues, and cells, the immune system defends against infections, allergies, and inflammatory reactions.

- Trauma is linked to thymus involution, atrophy of the spleen and lymph nodes, telomere shortening, and increased stress hormones, which impairs immunity and increases inflammation.
- Impaired immunity and inflammation increase risk for cancer, cardiovascular disease, diabetes, anxiety, depression, viral infections, autoimmune diseases, allergies, and asthma.

Ways Childhood Trauma Changes a Child's Brain and Body

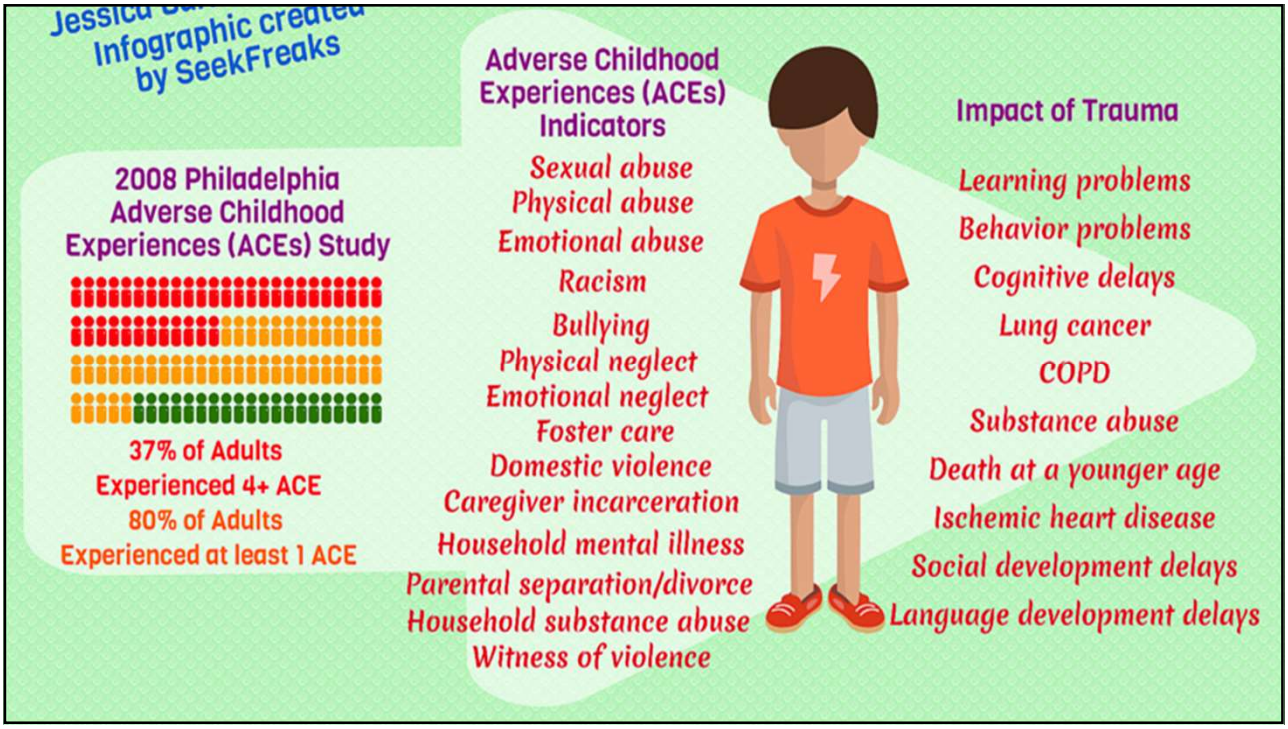
Neurological changes: We are born with 100 billion neurons (brain nerve cells) which are almost all of the neurons we will ever have. The connections between neurons develop vision, hearing, language, and higher cognitive functioning.

- The prolonged activation of stress hormones in early childhood can reduce neural connections in the thinking area of the brain dedicated to learning and reasoning, thus limiting cognitive ability.
- Continuous trauma can weaken remaining neural pathways to the thinking part of your brain and strengthen neural pathways to the survival part, thus bypassing the thinking part, which makes some children less capable of coping with adversity as they grow up.

Ways Childhood Trauma Changes a Child's Brain and Body

Epigenetic changes: Epigenetics is the study of how your environment and experiences can alter which genes turn on and off, known as gene modification. For example, "you may be born with a capacity to be tall and confident, but if you are undernourished and abused as a child, you are likely to turn into a stunted and fearful adult instead"

- Trauma can induce epigenetic changes for genes related to mental health, obesity, drug addiction, immune function, metabolic disease, and heart disease.



What is a Behaviour / Habit Loop ?

This is the neuro-social system of building a habit (good or bad), by performing actions the same way frequently, and like "muscle memory", the brain 'hardwires' information about our responses. There is often a 'trigger' that causes the 'routine' of the behaviour to be repeated. There may or may not be a 'reward' attached.

Strengthening RESILIENCE

Resilience is the capacity to bounce back from adversity. Protective factors increase resilience, whereas risk factors increase vulnerability.

Resilient individuals, families and communities are more able to deal with difficulties and adversities than those with less resilience. It is important that resilience is strengthened at both an individual and a societal level.

What do we mean by "Trauma-informed" practice?

This is an approach to health and care interventions which is grounded in the understanding that trauma exposure can impact an individual's neurological, biological, psychological and social development, thus shaping a person's world view and relationship development.

Trauma-informed approaches

After years of fight or flight, the nervous system is in a persistent 'parasympathetic' state, and it needs the right environment and time to heal

It is important to address the risk factors which make children and young people more vulnerable at an individual level but also in terms of the causes of wider risk factors in families and within a community.

Relevant online videos - with links

- Brain Builders:
https://www.youtube.com/watch?v=LmVWOe1ky8s
- HPA axis / Stress Response:
https://www.youtube.com/watch?v=QAeBKRaNri0
- The Stress Response - Fight or Flight:
https://www.youtube.com/watch?v=mtRrxNTnyh8
- ACE resources:
https://www.acesonlinelearning.com/resources
- Borderline Personality Disorder / EUPD:
https://www.youtube.com/watch?v=IddZY44_-kg
- **How childhood trauma affects health across a lifetime – Nadine Burke Harris**
https://youtu.be/95ovIJ3dsNk
- How Toxic Stress impacts children's developing brains:
https://www.youtube.com/watch?v=tIuVDLq3lLc

Relevant online articles - with links

- Original ACE Study: Am J Prev Med(1998) - V.J. Felitti *et al.*
https://doi.org/10.1016/S0749-3797(98)00017-8
- Karatekin, C., Hill, M. Expanding the Original Definition of Adverse Childhood Experiences (ACEs). *Journ Child Adol Trauma* **12**, 289–306 (2019). https://doi.org/10.1007/s40653-018-0237-5
- Wang, Y., Nerwen, R., & Gabris, C. (2019). Addressing adverse childhood experiences in diverse racial and ethnic settings: A review. *Current Opinion in Pediatrics, 31*(2), 284–289. https://doi.org/10.1097/MOP.0000000000000748
- e-learning for healthcare: All Our Health: Vulnerabilities and trauma-informed practice Every Mind Matters
- **Scottish Government (2020) Adverse Childhood Experiences (ACEs): https://www.gov.scot/publications/adverse-childhood-experiences-aces/**
- **Risk factors associated with knife-crime in the United Kingdom among young people aged 10–24 years: a systematic review:**
https://bmcpublichealth.biomedcentral.com/counter/pdf/10.1186/s12889-020-09498-4.pdf