

1) Describe some of the ways that Adverse Childhood Experiences (ACE) impact health across a lifetime.

According to the video: “How childhood trauma affects health across a lifetime” by Nadine Burke Harris. She outlines that ACE impact health across a lifetime in high doses, which affects brain development, the immune system, hormonal systems, and as far as how our DNA is read and transcribed. She further outlines that individuals who are exposed in very high doses have triple the lifetime risk of heart disease and lung cancer, and have a 20-year difference in life expectancy.

2a) What percentage of the population has experienced at least 1 ACE? 2b) What percentage experienced at least 4 or more ACEs?

The study that was done with 17,500 adults regarding their history of exposure to Adverse Childhood Experiences, which includes but not limited to sexual, and physical abuse, showed that ACEs are “incredibly common”, and that 67% of the population had at least one ACE and 12.6%, one in eight had four or more ACEs. For example, it was found that the higher the individual’s ACE score, the worse their health outcomes. Additionally, for a person with an ACE score of four or more, their relative risk of chronic obstructive pulmonary disease is likely to be two and a half times that of someone with an ACE score of zero.

3a) How might childhood trauma impact brain development? 3b) How might that impact shape human behavior?

Childhood trauma impacts brain development by affecting the nucleus accumbens which is the pleasure and reward center of the brain, that according to Dr. Burke is “implicated in substance dependence”. Childhood trauma also inhibits the prefrontal cortex which is

necessary for impulse control, and executive function; a critical area for learning. When viewed from the lens of a MRI scan, measurable differences are seen in in the amygdala, also known as the fear response center if the brain. When it comes to behavior, Dr. Burke highlighted that real neurologic reasons why individuals exposed to high doses of adversity are more likely to engage in high-risk behavior.

4) What were some of the best practices mentioned to intervene with children and families impacted by adversity and toxic stress?

Some of the best practices that were mentioned to intervene with children and families impacted by adversity and toxic stress are; home visits, care coordination, mental health care, nutrition, holistic intervention and medicine when necessary. Dr. Burke also highlighted that psycho-education is provided to the parents about the impacts of ACEs and toxic stress.

References: (2015). *YouTube*. Retrieved February 18, 2023, from <https://youtu.be/95ovIJ3dsNk>.