

FACT SHEET: **ADVERSE CHILDHOOD EXPERIENCES**

Between 1995 and 1997 there was a ground-breaking study conducted by the Centres for Disease Control and the Kaiser Permanente Health Care Organisation in California. The study involved over 17,000 people of predominantly middleclass backgrounds.

One of the findings of the study was that there was a high correlation between the number of adverse child experiences¹ (ACEs) and the chances of poor outcomes later in life including dramatically increased risk of heart disease, diabetes, obesity, depression, substance abuse, smoking, poor academic achievement, time out of work and early death.

Compared to an ACE score of 0, having four adverse child experiences was associated with a 7-fold increase in alcoholism, twice the risk of being diagnosed with cancer and a 4-fold increase in emphysema. An ACE score above 6 was associated with a 30-fold increase in attempted suicide.

The adverse childhood experiences studied were:

1. Physical abuse
2. Sexual abuse
3. Emotional abuse
4. Physical neglect
5. Emotional neglect
6. Exposure to domestic violence
7. Household substance abuse
8. Household mental illness
9. Parental separation or divorce
10. Incarcerated household member

It was clear from the study that childhood experiences were in fact very common. 28% of study participants reported physical abuse and 21% reported sexual abuse.

The report also noted that many adverse child experiences occur together. Subsequent studies have stressed the cumulative effect of ACEs. A person's cumulative ACE score has a strong, graded relationship to numerous health, social and behaviour problems throughout a person's life span.

The ACE study linked maltreatment and household dysfunction in childhood to health problems decades later.

¹ Adverse childhood experiences are defined as potentially traumatic experiences that can occur between the ages of 0 and 17.

Brain and neuroscience research now shows that there is a clear link between toxic stress and adverse health outcomes. The excessive activation of stress response systems in a child can have a significant effect on a child's developing brain as well as their immune system, metabolic regulatory systems, and cardiovascular system. Accordingly, where a child has multiple ACEs over time, this can trigger an excessive and long-lasting stress response which can have a wear and tear effect on the body.

Whilst people with many ACEs may experience several adverse health outcomes, this does not have to be their legacy. Appropriate treatment and therapy can assist a person recover from trauma caused by toxic stress.

It is important that services working with people who have experienced trauma engaged in trauma informed practice. This will help reduce the stress experienced by those with adverse child experiences whilst contributing to building responsive relationships and strengthening life skills.

Scientific research is continuing to explain the negative consequences of ACES, but much is explained by understanding the body's stress response.

OUR STRESS RESPONSE

Our autonomic nervous system (ANS) is a system that acts largely unconsciously. It regulates bodily functions such as heart rate, digestion, respiration and even pupil response. Two main parts of the ANS include

1. The sympathetic nervous system - SNS (also known as the fight /flight response); and
2. The parasympathetic system - PNS (otherwise known as the rest/ digest system – although this is a very simplistic description and the PNS actually does much more than this).

When we perceive a threat, the fight or flight response kicks into action. The hypothalamus sends chemicals to the pituitary gland which then sends chemicals to the adrenal glands telling them to release noradrenaline and cortisol.

The cortisol increases glucose in the blood (the body's energy source). It also slows down things like bone formation and immune function.

Noradrenaline (sometimes also called norepinephrine) triggers many reactions including increases in heart rate and blood pressure, triggers the release of glucose from energy stores and increases blood flow to skeletal muscles.

The result is that energy is sent to the organs that are required to fight or flee from the perceived threat. Energy is sent away from organs that are not immediately helpful (e.g., organs responsible for digestion or immune function).

When the perceived threat has gone, the pituitary gland tells the adrenals to stop the release of cortisol & noradrenaline, and levels should return to normal. The parasympathetic nervous system then kicks into action so the body can recuperate and return to normal digestion, immune function etc.

Sometimes however, a person experiences chronic stress and they are in a fight/ flight response much of the time. This can cause many health problems because our endocrine system becomes dysregulated, and the immune system is offline much of the time. Toxic stress can also affect the structural development of neural networks in the brain. In all, toxic stress can have a very significant impact, particularly when it occurs in childhood whilst a child's brain is still developing.