

Exploring the link between adverse childhood experiences (ACEs) and substance abuse, and how this can inform ACE-aware policies and practices

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Abstract

This article aims to explore the existing understanding between adverse childhood experiences (ACEs) and substance use disorders (SUDs), and how this can inform trauma informed care. There is a growing interest in evaluating the relationship between ACEs and SUDs and the significant socioeconomic costs associated with this. Encouraging discussions on developing trauma-informed care strategies is therefore necessary in reducing the rates and associated health risks of subsequent substance misuse. Included is an overview of the theoretical concept behind ACEs, an evaluation of their inclusion criteria in the current literature, and proposed links to health-harming behaviours. The article further explores the current deficit in existing long-term management, highlighting the need for primary, secondary and tertiary prevention strategies. Principally, dismantling intergenerational cycles of childhood trauma and strengthening familial support systems long-term remains the crux of tackling this mental and social health crisis.

Abbreviations

ACE(s) – adverse childhood experience(s)
CDC – Centers for Disease Control
NICE – National Institute For Health And Care Excellence
SUD(s) – substance use disorder(s)
WHO – World Health Organization

There exists extensive literature exploring the short and long term impacts of adverse childhood experiences (ACEs). Whereas research evaluating the relationship between ACEs and substance use disorders (SUDs) is a relatively recent development and one of growing interest.¹ The costs of ACEs were estimated at over £43 billion

for England and Wales, with drug use being the most prevalent risk factor when attributing costs – 52.6% in England and 58.8% in Wales.² Crucial to this is the development of trauma-informed care strategies on how ACEs can be prevented or mitigated to reduce the risks of subsequent substance misuse in adulthood. With one in ten estimated to have experienced four or more ACEs,³ the unrealised potential to avoid burdening societal costs and relieve healthcare services for current and future generations urgently needs addressing.^{4,5}

The definition of an adverse childhood experience relates to the exposure to a traumatic event before the age of 18.⁶ The concept of ACEs was first coined within a landmark study in America by the Centers for Disease Control (CDC) and Kaiser Permanente, a non-profit healthcare plan provider.⁷ Conducted between 1995 and 1997, ten types of childhood trauma, separated into three categories, were examined concerning outcomes of health. Those examined were abuse: physical, psychological and sexual; neglect: emotional and physical; and household dysfunction: living with a parent/caregiver with a substance use disorder, parental separation or divorce, living with a parent/caregiver with a mental illness, witnessing maternal abuse, or having an incarcerated parent/caregiver.⁷ Over 17,000 participants within South California were assessed for childhood trauma, and strikingly the outcomes of the study proposed that the majority of individuals experienced at least one ACE (64%), and 12% experienced four or more ACEs.⁷ Those with a score of four or greater had higher risks of developing health-harming behaviours; a seven-fold increase in the likelihood of substance misuse. Furthermore, when comparing individuals who experienced no ACEs, against those with two or more, there was a two to four-fold increase in the risk of early age onset of substance use.⁷ Only a risk could be inferred however, as it is improbable to predict health-harming behaviours of an individual with childhood trauma due to the complexity of external factors interplayed throughout a child's development.

Subsequent studies have since criticised the lack of variety in the types of ACEs evaluated, and thus widened the number of different types of ACEs to cover a wider demographic.⁸ The inclusion of social disadvantages as a major determinant for health and wellbeing has meant experiences such as racism, exposure to community violence, being a victim of bullying, homelessness, and living in poverty are now greater represented in research,⁹ further expressing the higher prevalence of these ACEs in low socioeconomic areas. In widening the categories of ACEs, this empowers individuals to discuss these issues more openly, further enabling more to come forward and do the same. Normalising the impacts of ACEs should not just apply in healthcare settings, but in education and the justice system,¹⁰ thereby encouraging collaboration between public services to prevent adverse health and social outcomes.

Establishing the complex link between ACEs and substance use disorders is one of these outcomes of concern, especially given the growing prevalence of opioid dependency in North America and Western Europe in recent years. The World Health Organization's (WHO) global drug report has estimated a rise of 22% in drug misuse since 2010,¹¹ with the most vulnerable groups being in areas of high socioeconomic deprivation. It is unsurprising therefore that ACEs are notably more prevalent among those diagnosed with substance use disorders when compared to the general population.^{12,13} As such, the narrative that substance misuse can be resultant of childhood trauma (for which a child is not responsible) is becoming more widely accepted and less stigmatised.

Whilst the neurobiological mechanism of ACEs itself and their link to health-harming behaviours is still not fully understood, there is behavioural evidence to support the effects of toxic stress on cognitive development during childhood. Trauma can result in a heightened stress response, meaning the individual is primed to specific stressors, and unable to perceive neutral threats from actual harm. This can dysregulate their fight or flight response, resulting in a difficulty to form resilience that would usually allow for self-regulation in response to an adverse experience.¹ Maladaptive behaviours provide an escape from traumatic stress, as a way to cope with or make sense of their childhood trauma.¹⁴ Some may self-medicate to relieve their heightened sense of stress, as a response to traumatic triggers, or block distressing memories of their trauma. Others may use it as a form of self-harm, such as through attempted overdosing, further internalising their trauma.¹⁴ The complexity and multifaceted nature of addictive coping mechanisms mean that intervention strategies must work on a trauma-informed basis to provide specialist support that truly comprehends an individual's reasoning behind their addictive behaviour.

A systematic review of 12 studies by Fernandez-Montalvo et al has further contextualised the relationship between ACEs and substance use disorders. The papers reviewed were published between 2016 to 2020, with the ages of participants ranging from 15 to 85. It established that those with substance use disorders had a higher prevalence of ACEs. Furthermore, a positive relationship between the number of ACEs and the overall severity of the substance use disorder could be inferred.¹ Adolescents with two or more ACEs had over a two-fold increased risk of developing a substance use disorder, whilst those with three or more ACEs had a seven-fold increased risk, compared to those with no exposure to ACEs.¹ The most prevalent form of ACE was parental separation or divorce (26.9%), whilst exposure to a household member with a substance use disorder was the second most common ACE (24.6%) experienced by those in addiction treatment centres.¹ It also found that those with an ACE score of one or more using substances, but not currently misusing them, were most vulnerable to developing an addiction.¹ As such, targeting these populations to mitigate health-harming behaviours is imperative. Further research should also focus on evaluating different forms of ACEs and whether specific substances are related to certain categories of ACEs.

In reviewing strategies to support those exposed to ACEs, many interventions were psychologically based, with very little focused on social policies or behavioural interventions.¹⁵ Broader intervention strategies are necessary to target societal factors, rather than treating the health related outcomes of ACEs. The development of primary, secondary and tertiary prevention strategies is therefore essential if ACEs are to be addressed through a public health lens.¹⁶

Primary preventions relate to ensuring children have the best possible start in life, by reducing their exposure to ACEs and building resilience practices.^{10,15} A greater focus should therefore be placed upon educational providers who can assist with a child's development. For example, the integration of psychoeducation through the teaching of resilience practices would empower young adults in making informed decisions about alcohol and drug use.¹⁴ In addition, learning through lived experiences and listening to individuals in recovery can develop conversations around susceptibility to substance misuse, encouraging the narrative that addiction is not the individuals' fault. Such initiatives should be commissioned in collaboration with local services, proving beneficial in areas with higher rates of substance misuse in particular.¹⁷

Secondary prevention initiatives are rather focused on identifying ACEs at the earliest opportunity to reduce their impact on an individual's health and wellbeing. Childhood trauma is something that is often missed in emergency care,¹⁸ resulting in an inability to signpost or refer patients to the appropriate support service. One such strategy is that healthcare providers could integrate screening and assessment tools into their policies and practices.

Introducing routine enquiries through screening of ACEs has been topically debated.¹⁶ ACE assessment tools have been criticised for their restricted ranges and simplistic numerical scoring; the issue being the complexity of childhood trauma should not be defined by a score alone.¹⁹ Additionally, there are several ethical dilemmas with screening: mental health needs could be identified without the appropriate care services being provided, as well as abusive parents potentially being alerted to their child being asked such questions, posing further child safety risks. Moreover, NICE does not currently have standardised criteria for assessing ACEs.¹⁹ Therefore, alternative assessment methods should be developed to become more rigorous and quantifiable. Proper oversight and evaluation of ACE screening tools are necessary, and this should be prioritised in further research to avoid unintended harm to both child and parent.

With tertiary prevention strategies, the focus should be on supporting those with exposure to ACEs, such as through specialist support being developed by mental health and social services. One supported initiative is developing whole family models of care: addressing the parent or caregivers' substance abuse, whilst at the same time providing support, such as psychotherapy, to the child.¹⁷ This could be achieved through parenting classes, welfare checks, and home visitation programmes.¹⁶ Helping parents and caregivers handle stress and manage their emotions as well as ensuring they can access emotional or financial support services throughout their child's life should be a target of interest.

The initiative of developing whole family support services is also crucial to ending intergenerational cycles of childhood trauma. Those affected by ACEs are at an increased risk of exposing their child to ACEs,²⁰ particularly if their childhood trauma is left unaddressed. Recent statistics released by Public Health England estimate that 17% of parents are reliant on drugs, and 16% are dependent on alcohol.²¹ Moreover, parental substance abuse is more prevalent within areas of high deprivation, which may be due to less established and underfunded support services in these areas. If a parent is abusing substances, their child is at greater risk of developing a substance use disorder. They are more likely to copy harmful behaviours and could have easier access to illicit substances.¹⁴ With an earlier age of onset, the stronger the potency and frequency of drug use

may become, resulting in more detrimental health and social outcomes during adolescence and beyond. Social services must therefore identify and support those families most vulnerable to prevent the intergenerational development of substance abuse.¹⁷ The development of whole family care models, therefore, provides the best opportunity to break these intergenerational cycles and strengthen familial support systems.

A greater understanding of this complex relationship between ACEs and SUDs is necessary to inform holistic and comprehensive policies and programmes, with long term social initiatives being prioritised to promote ACE free childhoods. With Northern Ireland,^{22,23} Wales²⁴ and Scotland^{25,26} already having more developed initiatives in incorporating the awareness of ACEs into education, training and intervention policies,⁸ England must follow similar initiatives or risks exacerbating the severe health and social burdens of ACEs.

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