

In this article...

- Findings of seminal research on adverse childhood experiences (ACEs)
- Relationship between ACEs and physical and mental health issues in adulthood
- Principles, benefits and tools of a trauma-informed care model

Trauma-informed care in response to adverse childhood experiences

Key points

Adverse childhood experiences (ACEs) are common and all nurses are likely to meet patients who have experienced them

ACEs can cause physiological damage to the nervous system and stress response mechanisms

ACEs appear to be linked with a wide range of health issues in adulthood, such as chronic lung disease, depression and addiction

A trauma-informed approach to care is not only important in terms of supporting adult survivors of ACEs, but also to improve prevention and early intervention

Asking patients about ACEs and acknowledging their impact on health has been shown to be a helpful intervention

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Abstract Nurses in all specialties will be aware how common adverse childhood experiences (ACEs) are, but will often lack a framework that enables them to understand the effects of ACEs and how to support patients. In the 1990s, groundbreaking research in the US found strong links between ACEs and physical and mental health issues occurring later in life. Further research confirmed these findings and highlighted the neurodevelopmental damage caused by ACEs, the connection with attachment theory, and the role of resilience. This article summarises research findings on ACEs, describes the benefits of a trauma-informed care model as a framework for understanding them and supporting patients, and directs nurses to practical tools and interventions.

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Nurses may struggle to understand how adverse experiences in childhood (ACEs) can negatively affect physical and mental health in adulthood, and may not know how to approach patients who may have had ACEs. This article explains ACEs and their impact, and looks at a trauma-informed care model as a framework for prevention, early intervention and recovery.

Adverse childhood experiences

The term 'adverse childhood experience' was coined in the US in the 1990s by Felitti et al (1998) who showed that ACEs appeared to be common and have a clear relationship with a wide range of illnesses and social problems. They found that patients who had experienced childhood sexual abuse were much more likely to drop out of treatment for obesity. They expanded the definition to encompass:

- Sexual abuse;
- Physical abuse or neglect;
- Emotional abuse or neglect;

- Domestic violence;
- Substance misuse in the household;
- Mental illness in the household;
- Parental separation or divorce;
- Imprisonment of a household member.

Today, care models based on this groundbreaking research also include bullying, racism, intergenerational trauma and poverty (Kroeker, 2017).

Effects of ACEs in adulthood

Felitti et al (1998) went on to conduct a larger-scale study to explore the relationship between adult health status and childhood exposure to abuse and household dysfunction. Over 17,000 participants were drawn from the 50,000 people who underwent annual screening at Kaiser Permanente Department of Preventive Medicine in San Diego. In full-time employment, they also had associated private health insurance; around 75% were white and the average age was 57. Felitti et al found that:

- Around two-thirds of participants reported having experienced at least

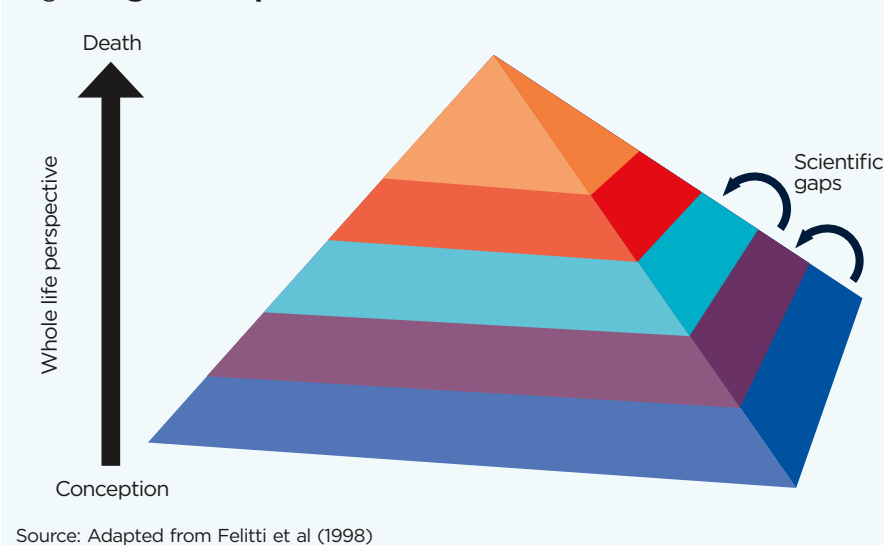
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Table 1. Risk of health problems in people with ACEs

Health problem	Risk among people with four ACEs
Cancer	Twice the risk of participants with no ACEs
Emphysema	4 times the risk of participants with no ACEs
Depression	4.6 times the risk of participants with no ACEs
Alcoholism	7 times the risk of participants with no ACEs

ACE = adverse childhood experience. Source: Adapted from Felitti et al (1998)

Fig 1. Negative impact of adverse childhood events



- one ACE – of these 28% reported physical abuse and 21% sexual abuse;
- Participants had often experienced more than one ACE – among the two-thirds of participants who had experienced at least one ACE, 87% had experienced more than one (of whom 40% had experienced two or more and 12.5% four or more);
 - There was a strong association between the number of ACEs experienced and the likelihood of the person adopting risk behaviours in adulthood, for example, smoking, alcohol and drug misuse, multiple sexual partners, and being morbidly obese;
 - There was an exposure-response relationship between the number of ACEs and health problems – the higher the number of ACEs, the lower the overall life expectancy and the higher the occurrence of conditions such as cancer, heart disease, depression and chronic lung disease.

Table 1 shows the increased risk of cancer, emphysema, depression and alcohol misuse in participants reporting four ACEs compared with those reporting none. In participants reporting six ACEs, the risk of attempted suicide was 30 times higher than

in those reporting none. Fig 1 illustrates the negative impact of ACEs (Felitti et al, 1998).

Further research on ACEs

These findings had a huge impact across the world, which was increased by the fact that the study population was largely white, middle class, employed, educated (around 75% were college graduates) and had access to good healthcare. More-recent studies have found similar links between ACEs and physical and/or mental health issues later in life. The Welsh government has carried out cross-sectional research for which 2,028 people aged 18–65 years were interviewed (Bellis et al, 2015); 47% reported at least one ACE and 14% reported ≥ 4 ACEs. Compared with participants with no ACEs, those with ≥ 4 ACEs were:

- Four times more likely to be high-risk drinkers;
- Six times more likely to have had or caused unintended teenage pregnancy;
- Six times more likely to smoke cigarettes or tobacco;
- Six times more likely to have had sex before the age of 16;
- Eleven times more likely to have smoked cannabis;
- Fourteen times more likely to have been

a victim of violence in the previous 12 months;

- Fifteen times more likely to have committed violence in the previous 12 months;
- Sixteen times more likely to have used crack cocaine or heroin;
- Twenty times more likely to have been in prison at some point in their lives.

In other research, Jimenez et al (2017) have shown a link between ACEs and a diagnosis of attention deficit hyperactivity disorder (ADHD) at the age of nine.

Biological mechanisms

Bellis et al (2015) identified underlying biological mechanisms that explain the association between ACEs and risk behaviours in later life. Babies are not born with fully developed nervous systems. Exposure to toxic stress – which occurs when a child experiences strong, frequent and/or prolonged adverse events without adequate adult support (Larkin et al, 2012) – and the resulting prolonged activation of stress response mechanisms can disrupt the development of the brain and other organs, and increase the risk of stress-related disease and cognitive impairment (American Academy of Pediatrics, 2014).

The mechanisms involved include:

- Hyperarousal in response to stress, which leads to an excessive release of the hormone cortisol;
- Weakened neural connections, resulting in increased levels of fear and anxiety in response to stress;
- Changes in genes via their chemical markers, predisposing to chronic inflammation along with a suppressed immune response (Nakazawa, 2015).

Research in neuropsychiatry is finding more and more links between ACEs and physiological and neurological responses and, in the process, is breaking down the barriers between mental and physical ill health.

Attachment theory and resilience

From the 1950s onwards, psychologists and psychotherapists began to highlight the need for young children to have a secure emotional bond with a primary caregiver. Bowlby, in particular, described the importance of that bond – which gives the child a base from which to explore the world and form other relationships – and how its quality affects the child's psychological, behavioural and emotional development (Bowlby, 1988). This is known as attachment theory.

More recently, research has identified additional dimensions of this emotional

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Box 1. Trauma-informed care: example in practice

GP Matt James^{*} was aware that Celia Berwick^{*} had missed her routine cervical smear test. At an appointment to discuss her low mood and anxiety, he raised this with her, acknowledging that the procedure can be difficult for some.

Dr James used trauma-informed principles of choice, collaboration, control and safety to build trust with Ms Berwick to help her manage the procedure as well as possible. They agreed how they would go about it and Ms Berwick successfully underwent the smear test a few days later. She acknowledged the role that her experience of sexual abuse in childhood had played in her difficulties, and said she would have greater confidence in her ability to manage this in the future.

^{*}Names have been changed.
Source: Adapted from NHS Education for Scotland (2017b)

bond that link with ACE study findings and help us understand the factors that foster resilience. Resilience is the ability to adapt positively to significant adversity. It is enhanced by the presence of protective factors, such as individual skills and strengths, and the existence of safe, stable, nurturing relationships (Felitti et al, 1998).

Trauma-informed care

In response to the research on ACEs, Menschner and Maul's (2016) trauma-informed model of care was developed in the US, where it is now widely used in human services. Trauma-informed care is being introduced in the UK in the criminal justice system, the homelessness sector, schools, and children and family services but the NHS and other healthcare settings are lagging behind (Larkin et al, 2012). The exception to this is Scotland.

NHS Scotland has recently developed a knowledge and skills framework that defines four levels of practice in relation to how staff address trauma. A basic trauma-informed level of practice is required of all workers, regardless of role (NHS Education for Scotland, 2017a). The framework's executive summary (NHS Education for Scotland, 2017b) gives a few examples in practice, one of which is shown in Box 1.

Table 2 shows the characteristics of a trauma-informed care environment. For patients, the benefits include:

- Feeling safe and supported;

Table 2. Characteristics of a trauma-informed care environment

Characteristic	Examples of good practice
All staff understand ACEs and their effects, and are able to recognise the signs and symptoms of trauma in patients, relatives and other staff	Basic training sessions on ACEs are provided for all (including non-clinical) staff
There is an emphasis on safety, reliability and trustworthiness	Nurses use "Hello, my name is..." to introduce themselves, and try to ensure patients are seen on time. They should give an explanation and apology if that does not happen
The clinical environment is welcoming and features clear and simple information for patients	The environment is clean and bright, with up-to-date noticeboards and notices phrased in positive language (for example, "Thank you for treating all our staff and volunteers with respect")
An explanation of trauma is included in policies, procedures and training, so the experience of care does not add to, or mirror, the original trauma	Patients are offered a choice about their treatment, options are explained to them and their responses are listened to
Nurses are supported to discuss difficult aspects of their work and, where possible, offered reflective practice	Hospital nurses are given the opportunity to attend a Schwartz round, where they can talk about the challenges in caring for individual patients and receive peer support

ACE = adverse childhood experience. Source: Adapted from Menschner and Maul (2016)

- Increased engagement;
 - Understanding that symptoms may be linked to childhood trauma;
 - Care experiences that do not add to previous trauma;
 - Starting on a recovery journey;
 - Improved outcomes.
- For staff, the benefits include:
- Better understanding of patients' behaviours;
 - Increased compassion, hope and resilience;
 - Reduced stress and burnout;
 - An improved ability to take a less 'black-and-white' approach.

For hospitals and healthcare agencies, the benefits include:

- A clear framework for the values and philosophy of care;
- Better engagement with patients;
- Better staff retention;
- Reduced staff sickness and absence;
- The creation of insightful and compassionate workplaces.

Much of the available research on ACEs comes from the US and Canada. Although ACEs increasingly feature in UK studies from a whole-health workforce perspective (as in Scotland) or a public health perspective (as in Wales), research that focuses on nursing practice in the UK is needed.

Supporting adult survivors

According to Stokes et al (2017), nurses play a vital role in implementing the trauma-informed care model, while Girouard and Bailey (2017) tell us that:

"to prevent [...] ACEs and to reduce their negative effects, we must engage nurses as they 'are already on the front lines in the battle against the negative effects of toxic stress'."

Using a trauma-informed care model does not mean nurses have to become mental health specialists, let alone counsellors or psychotherapists – rather than prescribing certain clinical interventions, the model offers a framework informing all the elements of healthcare provision. Given the common nature of ACEs and their links with a wide range of conditions in adult life, nurses in all adult specialties will likely be in contact with adult survivors of ACEs. Many patients will never have talked about these experiences and, if they have, they may have faced negative reactions.

Nurses may feel reluctant to stir painful memories, or unqualified to listen and advise. However, research from Blackburn with Darwen Council (McGee et al, 2015) shows that the act of asking about, and listening to, patients' experiences is, in itself, likely to have a positive effect.

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Parallels with the grief model

A parallel can be drawn with how health professionals acknowledge the effects of loss and bereavement. In the past, they were often unsure how to do this and sometimes felt they did not have the right skills to support grieving patients. However, Kübler-Ross' (1969) model of the different stages of grief provided a simple formula to acknowledge grief and loss, as well as patients' responses to them.

The trauma-informed care model provides a similar framework. The equivalent of the simple and direct approach of listening and validating patients' experiences of loss – central to Kübler-Ross' model – is the move from asking "What is wrong with you?" to "What has happened to you?". This is fundamental to trauma-informed care. While it may look most relevant to mental health, it is useful in a wider range of settings, for example, when nurses encounter patients who are struggling to give up health-harming behaviours, or are hostile or withdrawn.

REACH screening tool

In 2015, the public health department at Blackburn with Darwen Council developed the Routine Enquiry about Adversity in Childhood (REACH) screening tool. It enables practitioners to identify adults who have had multiple ACEs – these may not only lead to poorer health and social outcomes, but also to a higher risk of exposing their own children to ACEs. The tool outlines a process for routinely asking adults, at initial assessment, about traumatic or adverse experiences to offer appropriate interventions and support recovery. The tool has been shown to convey the message that ACEs are both common and acknowledged by health professionals. Concerns that its use would lead to an increase in demand for services have been shown to be unfounded (McGee et al, 2015).

Prevention and early intervention

The trauma-informed care model, developed in response to the needs of adults with ACEs, is also relevant to prevention and early intervention. This is where school nurses, health visitors, primary care nurses, nurses in child and adolescent mental health services and paediatric nurses can play a role.

The Early Intervention Foundation (2018) has reviewed evidence-based interventions aimed at reducing negative outcomes due to ACEs in the early years. These interventions, based on partnerships between nurses and families, provide

Box 2. Promoting resilience in parents and children

- Provide parents and caregivers with reliable and supportive contact
- Routinely enquire about ACEs and acknowledge their impact
- Be aware of the negative effects of poverty, mental ill health and insecure housing, and know where to direct families for help (for example, Shelter, Samaritans, Mind, Citizens Advice)
- Promote the positive involvement of the wider family and the school
- Appreciate the importance of faith, culture and identity to give people a sense of belonging and social connection

ACE = adverse childhood experience.
Source: Adapted from Sege et al (2017)

tailored support for the most disadvantaged new parents and are effective in cases of actual or potential physical or emotional abuse, neglect and domestic violence.

The public health department at Blackburn with Darwen Council cites the following interventions as being helpful for ACE prevention and early intervention:

- Reducing unintended pregnancies;
- Reducing harmful levels of alcohol and illicit drug use during pregnancy;
- Reducing harmful levels of alcohol and illicit drug use by new parents;
- Improving access to high-quality pre- and post-natal services;
- Home visits by professional nurses or social workers for families where children are at high risk of maltreatment;
- Training parents on child development, non-violent discipline and problem-solving skills;
- Pre-school programmes to give young children an educational head start;
- Life skills training for parents;
- Supporting adolescents at high risk of self-harm or harm to others to complete schooling.

Box 2 lists five ways in which nurses can promote resilience in parents and children.

Conclusion

Most of us will be affected by ACEs in some way, whether as health professionals, survivors, relatives of survivors and/or parents. For nurses, an understanding of the impact of ACEs on child and adolescent behaviour and on adult health, as well as of the mechanisms behind their damaging effects, is warranted. A trauma-informed

care model will help nurses make sense of their patients' health history and responses to treatment, and inform how they communicate with them. It needs to be accompanied by training, reflective practice and peer support, which are all important to protect staff from burnout. Such a model of trauma-informed care will enable nurses to deliver safer, more effective, more compassionate and more holistic care. **NT**

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