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Adverse childhood experiences

and implementing trauma-informed primary care

Abstract: ***Adverse childhood experiences (ACEs) include exposures such as abuse and household dysfunction. These exposures are associated with long-term sequelae and unfavorable health outcomes in adulthood. NPs working in primary care can help to reduce the impact of ACEs in adulthood by identifying individuals with these experiences and implementing trauma-informed care strategies.***

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An NP working at a community health center is meeting with a new patient who complains of depression and anxiety. Mr. L, a 46-year-old male, is currently homeless and has a history of major depressive disorder and alcohol use disorder. He has had several hospitalizations for suicide attempts and alcohol withdrawal and detoxification. Mr. L currently takes no medications but reports previously taking fluoxetine and sertraline. Although the medications helped, Mr. L was not able to obtain refills because he lacked a reliable mode of transportation. He states that without the medication, his mood is poor and his anxiety is elevated, which leads to excessive alcohol intake.

Mr. L's depression screening tool (The Patient Health Questionnaire-9 [PHQ-9]) reveals moderately severe depression, but he denies suicidal ideation. He states, "I know when I am getting bad, and that is why I came in today." The NP completes a thorough history that includes questioning about his childhood, to which he replies: "it was rough; my dad was a drinker. The only time things seemed okay was when he went to prison." As the NP questions further, it is discovered that Mr. L has a history of five adverse childhood experiences.

Background

In the 1980s, a physician working in an obesity clinic in southern California noted that although his weight loss program was working well for many of his patients, a substantial number of participants dropped out of the program and quickly regained

Keywords: adverse childhood experiences, childhood trauma, trauma-informed care

their lost pounds.[1] To better understand why patients were leaving the program, he interviewed them and discovered that almost half reported experiencing childhood sexual abuse.[1] This finding led to a collaborative investigation with the CDC into the relationship between childhood trauma and subsequent health outcomes. This study, published in 1998, became known as the landmark adverse childhood experiences (ACE) study.[1]

The original ACE study included more than 17,000 individuals in two waves of research.[2] Participants completed confidential surveys on childhood experiences, health behaviors, and health status, and they underwent physical exams and lab testing as part of their health assessments.[3] The confidential surveys included questions about childhood experiences of abuse and household dysfunction.[3]

Initially, questions focused on seven specific ACEs: emotional, physical, and sexual abuse; violence against a mother; living with an individual with an alcohol or other substance use disorder; living with an individual with mental illness; or living with an individual who went to prison.[3] In the second wave of the study, physical and emotional neglect were added, and subsequent studies included parental separation and divorce as an additional ACE.[2,4]

These studies revealed that over 60% of the participants had experienced at least one ACE, and 12.5% had experienced four or more ACEs (see *ACE score prevalence: ACE study participants waves 1 and 2*).[2] The most common ACEs reported were physical abuse (28.3%) and household substance abuse (26.9%), and one in four women (24.7%) reported a history of sexual abuse during their childhood (see *Prevalence of ACEs by category: ACE study participants waves 1 and 2*).[2] Since the publication of the original ACE study, numerous other studies have confirmed the high prevalence of ACEs in the US.[4]

In 2010, two large surveys, one including over 26,000 individuals from 5 states and another of almost 54,000 adults in 10 states plus the District of Columbia, resulted in findings consistent with the original

ACE score prevalence: ACE study participants waves 1 and 2[2]

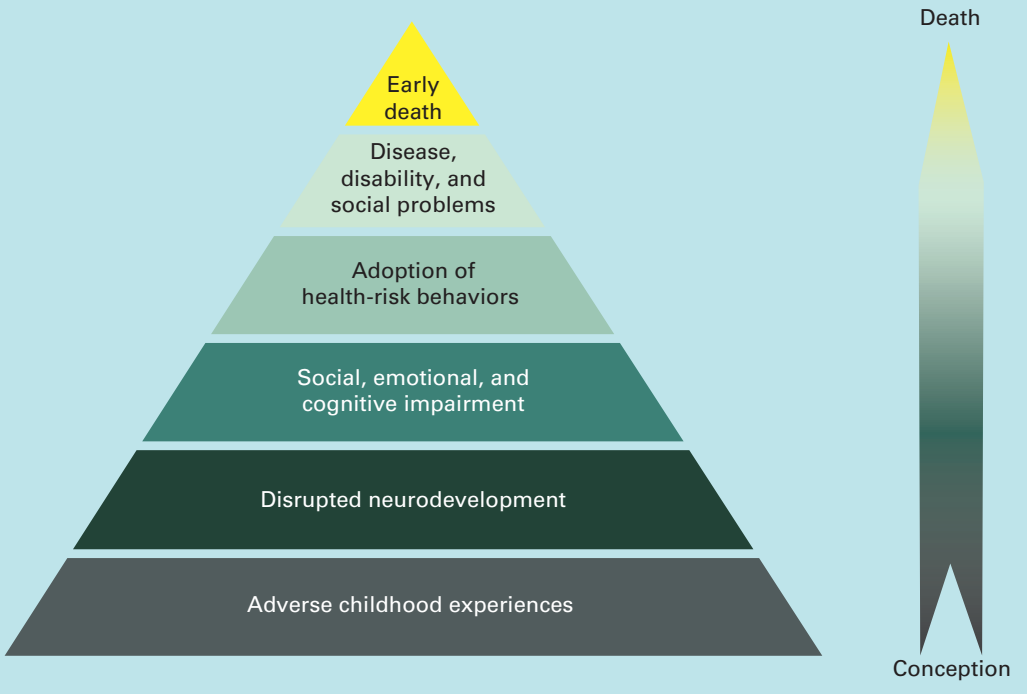
Number of ACEs	Women (%)	Men (%)	Total (%)
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.5	9.5
4 or more	15.2	9.2	12.5

Prevalence of ACEs by category: ACE study participants waves 1 and 2[2]

ACE Category	Women (n = 9,367) %	Men (n = 7,970) %	Total (N = 17,337) %
Abuse			
Emotional abuse	13.1	7.6	10.6
Physical abuse	27	29.9	28.3
Sexual abuse	24.7	16	20.7
Household challenges			
Mother treated violently	13.7	11.5	12.7
Household substance abuse	29.5	23.8	26.9
Household mental illness	23.3	14.8	19.4
Parental separation or divorce	24.5	21.8	23.3
Incarcerated household member	5.2	4.1	4.7
Neglect*			
Emotional neglect	16.7	12.4	14.8
Physical neglect	9.2	10.7	9.9

*Collected during wave 2 only (n = 8,629)

ACE pyramid



Reproduced from the Centers for Disease Control and Prevention[2]

ACE study. The results of these two studies showed that 59.4% of the population have experienced at least one ACE.[5,6] Participants reporting four or more ACEs were 15.2% and 15.3% of the two study populations, respectively.[5,6] Similarly, in 2011, more than 48,000 adults in five states were surveyed; 55.4% of respondents reported at least one ACE, and 13.7% reported four or more ACEs.[7]

In the original ACE study, Felitti and colleagues discovered a dose-response relationship between the number of ACEs experienced and subsequent health risk behaviors, mental illness, and chronic illness, indicating that the more ACEs children experience, the higher the prevalence of these conditions in adulthood.[3] As the number of ACEs increased, so did the prevalence and risk for depressed mood, suicide attempts, tobacco smoking, alcohol use disorder, injection of illicit drugs, having more than 50 sexual partners, history of sexually transmitted infection, physical inactivity, and severe obesity.[3]

Compared with participants with no history of childhood trauma, those with four or more ACEs were twice as likely to smoke tobacco, 7 times more likely to have an alcohol use disorder, 10 times more likely to have ever injected I.V. drugs, and 12 times more likely to have attempted suicide.[3] Chronic illnesses found to have a significant dose-dependent relationship to ACEs included ischemic heart disease, chronic obstructive pulmonary disease (COPD), cancer, skeletal fractures, and liver diseases such as hepatitis.[3]

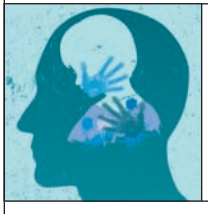
Dozens of additional studies have confirmed the link between ACEs, health risk behaviors, and chronic health conditions, with more than 40 outcomes revealing a dose-dependent relationship to number of traumatic childhood experiences.[2] Gilbert and colleagues reported graded dose-response relationships between the number of ACEs and health conditions such as coronary artery disease, myocardial infarction, stroke, asthma, and diabetes mellitus as well as between number of ACEs and reported fair or poor general health, frequent mental distress, and disability.[6]

Campbell and coauthors reported graded dose-response relationships between ACE score and binge drinking, heavy drinking, current tobacco use, depression, disability, and participating in high HIV risk behaviors such as injecting I.V. drugs or receiving money or drugs in exchange for sex.[7] Individuals with

ACEs are more likely to report poor health, and ACEs increase risk for disability and early death, with individuals reporting six or more ACEs dying on average nearly 20 years earlier than individuals reporting no ACEs (see *ACE pyramid*).[2,3,8]

Brain changes

Physical responses to transient stressors are not harmful to a young child, particularly if the negative effects of the stress responses are mitigated by a supportive caregiver who is consistent and reliable in responding to the child's needs.[9] However, *toxic stress*, defined as the prolonged activation of the stress response system that occurs in the absence of a supportive caregiver, may occur during sensitive developmental stages and can lead to disruption in brain development.[9]



The consequences of various undesirable coping mechanisms can lead to poor long-term health in patients with a history of ACEs.

Excess catecholamines, cortisol, and proinflammatory cytokines present during the prolonged stress response are damaging to a child's developing brain and change the architecture of the brain in ways that influence future behavior, learning, and health.[9,10] Toxic stress is associated with changes in the development of the prefrontal cortex, amygdala, and hippocampus that result in numerous alterations in behavior and learning (see *Brain changes resulting from exposure to toxic stress*).[9,10]

Health implications

Chronic stress caused by ACEs negatively affects long-term health by increasing risk for mental illness, aiding in the development of adverse coping behaviors, and altering the function of the nervous, endocrine, and immune systems.

ACEs have been directly implicated in the development of mental illnesses in three recent meta-analyses. Li and colleagues reported a significantly elevated risk for anxiety and depression in patients with a history of childhood trauma.[11] Nelson and coauthors demonstrated that a strong relationship exists between ACEs and early onset, severe, and treatment-refractory depression.[12] Agnew-Blais and Danese reported unfavorable outcomes in patients with bipolar disorder, including more frequent and more severe episodes of both depression and mania, significant psychosis, and an increased risk of suicide attempts when compared with patients who have the condition without a history of ACEs.[13]

Additionally, a systematic review by Carr and coauthors illustrated a link between specific types of childhood abuse and neglect and the subsequent development of numerous mental pathologies, including mood disorders such as major depressive disorder and bipolar disorder; anxiety disorders such as panic disorder and agoraphobia; posttraumatic stress disorder (PTSD); personality disorders; eating disorders; substance use disorders; disruptive, impulse-control, and conduct disorders; dissociative disorders; and schizophrenia (see *Link between ACEs and mental illness*).[14]

The consequences of various undesirable coping mechanisms can lead to poor long-term health in patients with a history of ACEs. Behaviors that may be assessed by a healthcare provider as the patient's *problem* (overeating, smoking, alcohol use, or drug use) may be viewed by the patient as a *solution*.[15] Healthcare providers, for example, see tobacco use as a problem that can lead to negative health consequences for the patient; however, the patient may

Brain changes resulting from exposure to toxic stress[9,10]

Brain region	Changes resulting from toxic stress	Examples
Prefrontal cortex	Impairment in executive functions	Attention, reasoning, impulse control, working memory, problem solving[10]
Amygdala	Alterations in behavioral responses	Hypervigilance, fear responses[9,10]
Hippocampus	Behavioral changes	Impaired learning and memory[9,10] Reduced ability to regulate mood[9]

Link between ACEs and mental illness[14]

Disorder type	Emotional abuse	Physical abuse	Sexual abuse	Emotional neglect	Physical neglect
Anxiety disorders	x	x	x	x	
Disruptive behavior disorders		x	x	x	
Dissociative disorders			x		
Eating disorders		x	x		
Mood disorders	x	x	x	x	
Personality disorders	x	x	x	x	x
PTSD	x	x	x		
Schizophrenia	x	x	x		x
Substance use disorders	x	x	x	x	

be using the psychoactive benefits of nicotine to mitigate symptoms of anxiety, depression, or anger.[15] These individuals then go on to develop diseases for which their health behaviors place them at risk, such as COPD, cardiovascular disease, and liver disease.

Prolonged exposure to toxic stress during childhood is associated with changes in the nervous, endocrine, and immune systems.[10] Recent literature has linked ACEs to the development of diseases such as autoimmune disorders and cardiovascular disease based on the growing body of evidence that suggests toxic stress in childhood results in a chronic proinflammatory state in the adult body, which leads to the development of certain diseases independent of health risk behaviors.[10,16,17]

Barr reported that chronic elevations in cortisol levels paired with increased levels of inflammatory proteins exact changes in the cardiovascular system that can be seen in very young adults.[16] Baumeister and colleagues conducted a meta-analysis that revealed an association between childhood physical and sexual abuse and increased levels of inflammatory markers in adults, revealing a long-term change in immune function that may be influenced by childhood trauma.[17]

Societal implications

In addition to health risks, having a history of ACEs increases risk for disadvantaged socioeconomic status, lower education, and increased difficulty in maintaining employment.[18] However, ACEs are a burden that affects not just the individual experiencing the trauma, but also the individual's family, community, and society. A family cycle of abuse is common, and survivors of ACEs are at increased risk for maltreating their own children.[19] Newer research is indicating that the effects of trauma may be passed down to subsequent generations, possibly through changes in DNA.[9]

From a community standpoint, individuals who experience ACEs may be more likely to commit crimes. A large study of over 22,000 former juvenile offenders found a graded dose-dependent relationship between number of ACEs and likelihood of engaging in serious, violent, and chronic criminal behavior by the age of 35.[20] Two separate studies conducted by Levenson and colleagues on male (N = 679) and female (N = 47) sex offenders showed that nearly half (45.7%) of male participants and 41% of female participants reported four or more ACEs, and 38% of male participants and 50% of female participants had been sexually abused as children, demonstrating a link between surviving ACEs during childhood and committing sex offenses as adults.[21,22] The estimated economic burden of childhood abuse and neglect in the US is at least $124 billion annually with financial burdens that include medical care during both childhood and adulthood, child welfare costs such as foster care placement, criminal justice costs, and loss of productivity.[23]

Caring for adult survivors of ACEs

Considering the prevalence of ACEs in the US and the well-established impact of negative health-related

outcomes, it is essential for NPs to be knowledgeable about ACEs and to be confident in caring for patients with a history of childhood trauma. Current evidence suggests that many primary care providers do not routinely ask about ACEs. Some providers may be unaware of the impact of ACEs, whereas others may have knowledge of ACEs but have not been trained on how to conduct this type of interview with patients.[15,24] There may be concerns regarding time constraints, reimbursement, and the ability to respond empathetically to disclosures of past abuse.[15,24]

Kerker and colleagues recently reported that of nearly 600 pediatricians surveyed, only 4% of respondents routinely asked about all relevant ACEs, and 76% of pediatricians reported not being familiar with the ACE study.[25] Weinreb and coauthors reported that fewer than one in three primary care physicians routinely screened women for a history of childhood abuse, and only one in eight routinely screened men.[26]

Administering an ACE Questionnaire should be immediately followed by a discussion with the NP.

This study also demonstrated that the survey participants underestimated the prevalence of childhood trauma and were often unaware of the negative health ramifications associated with ACEs.[26]

Nearly 80% of the physicians surveyed believed it was their role to screen for childhood abuse but reported barriers to screening such as lack of time to screen and to counsel patients after a positive screen.[26] Forty percent of respondents reported no formal training in screening adults for childhood trauma.[26]

Likewise, a study of family medicine residents (N = 112) revealed that although 80% of residents believed that it was their role to screen patients for past abuse, less than half had received formal training on how to do so, and only one-third felt confident enough in their abilities to adequately screen patients.[27] Lack of time to counsel patients after a disclosure of childhood trauma was a top barrier to screening along with lack of time to screen, which is consistent with other reports.[26,27]

Trauma-informed care

Although ACEs are associated with significant long-term sequelae, there are effective interventions that can be used to reduce the impact of these experiences on physical and mental health. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), trauma-informed care is a systemwide approach to caring for patients that is cognizant of the impact of childhood trauma on the person, the family, the community, and society as a whole.[28]

Practitioners working within a trauma-informed organization are able to recognize possible trauma in patients and families and respond appropriately in a way that helps the individual recover without causing retraumatization (see *Qualities of a trauma-informed organization*).[28] SAMHSA recognizes that victims of trauma can recover and experience better health, but health organizations must be informed in the science of trauma and the practices that can help patients recuperate.[28]

A trauma-informed care approach addresses the consequences of trauma and helps to facilitate healing in patients and families.[29] Additionally, a trauma-informed approach recognizes that patients with a history of trauma have unique health challenges that require adaptations on the part of healthcare providers to attend to their vulnerabilities.[30] Mollard and Hudson developed a model of implementing trauma-informed care for women in correctional facilities. Their model includes four elements: educate, empathize, explain, and empower (4 E's; see *The 4 E's model of trauma-informed care for the primary care setting*).[29] This model can be adapted for use in the primary care setting.

Educate

The *educate* element of the 4 E's model refers to the systematic education of staff.[29] For an organization to be trauma-informed, all staff must undergo training on the prevalence of ACEs, how ACEs affect brain development in children, how they affect body function, and the role they play in mental illness, chronic illness, and health-risk behaviors later in life.[29] Training sessions should also include information about the importance of screening for ACEs and how to empathetically respond to disclosures of abuse.[31]

Staff members learn how to intervene to help patients in need, including understanding the role each staff member plays in the care of and advocacy for patients.[29] Examples of this include answering

questions such as, *Who will screen patients for ACEs and respond to their disclosures of past abuse? What can scheduling staff do to help patients with transportation challenges? Who connects patients with therapists for trauma-informed cognitive behavioral therapy? When a patient fails to arrive for a Pap test, who follows up with that patient to ask if she wants to reschedule and to encourage discussion if she has any questions or concerns about the procedure?*

Choi and Seng reported that a 1-hour trauma-informed care education program directed at perinatal providers and staff (N = 53) resulted in statistically significant improvements in knowledge, skills, and attitudes.[32] Palfrey and colleagues reported increases in awareness, confidence, and attitudes in mental health providers and staff after a 1-day workshop on trauma-informed care (N = 102).[33] In particular, participants gained confidence in assessing for trauma and responding to disclosures, improved perceived knowledge and skill in working with patients affected by trauma, and increased awareness of services and resources available to patients.[33]

Empathize

Empathize is the second element of the 4 E's model, and it means that providers and staff should consider how trauma has affected patients and their current behaviors and health.[29] Providers may gain a deeper understanding of their patients by considering how trauma has affected them as people.[29] This includes refraining from labeling patients as being nonadherent and instead recognizing the patient's potential barriers to following the recommended plan of care, which may include financial barriers, transportation barriers, and other types of barriers that may not be discovered unless the patient is specifically asked.[34]

It is critical that providers of primary care routinely screen patients for ACEs.[31] Screening can be accomplished directly through questioning by the NP or by administering a questionnaire.[31] Administering an ACE Questionnaire (see *ACE questionnaire*) should be immediately followed by a discussion with the NP.[3,31] NPs must be prepared to address disclosures of abuse with empathetic responses. For many providers who are not accustomed to these disclosures, this may involve practicing supportive and validating statements in advance.

NPs will also need to pay close attention to body language and facial expression while refraining from using physical touch to comfort the patient. Literature suggests that patients are not offended or triggered when asked about childhood trauma as long as they do not receive a negative response to the disclosure.[30,31] If the NP's response is compassionate and empathetic, this may help to gain the trust of the patient, which will assist in developing a mutually agreed-upon plan of care for health improvement.

Qualities of a trauma-informed organization[28]

Realizes the widespread impact of trauma and understands potential paths for recovery

Recognizes the signs and symptoms of trauma in patients, families, staff, and other individuals involved with the system

Responds by fully integrating knowledge about trauma into policies, procedures, and practices

Actively seeks to *resist retraumatization*

The 4 E's model of trauma-informed care for the primary care setting

Educate
Systematically train all providers and staff in trauma-informed care strategies; learner objectives include:
- Identify the various types of ACEs
- Explain how ACEs affect brain development
- Describe the role ACEs play in the development of health risk behaviors, mental illness, and chronic illness
- Recognize the importance of screening for ACEs
- Learn how to respond to disclosures of abuse
- Assemble plans to intervene for patients in need

Empathize
- Consider how trauma has affected patients and their current behaviors and health
- Recognize patients' potential barriers to following recommended plans of care
- Develop sensitive responses to abuse disclosures

Explain
- Create a safe environment for patients
- Honestly explain exams and procedures
- Answer questions
- Adjust usual routines to accommodate patients' unique needs
- Avoid retraumatization

Empower
- Eliminate the power differential between provider and patient
- Utilize a patient-centered care approach
- Employ shared-decision making strategies
- Facilitate goal-setting and positive health choices
- Develop evidence-based treatment plans
- Connect patients to care and resources

Adapted with permission from: Mollard E, Hudson DB. Nurse-led trauma-informed correctional care for women. *Perspect Psychiatr Care*. 2016;52:224-230.

ACE questionnaire[3]

While you were growing up, during your first 18 years of life:

Did a parent or other adult in the household **often**:	Swear at you, insult you, put you down, or humiliate you? ***Or*** Act in a way that made you afraid that you might be physically hurt?	YES	NO	If yes enter 1 _____
Did a parent or other adult in the household **often**:	Push, grab, slap, or throw something at you? ***Or*** **Ever** hit you so hard that you had marks or were injured?	YES	NO	If yes enter 1 _____
Did an adult or person at least 5 years older than you **ever**:	Touch or fondle you or have you touch their body in a sexual way? ***Or*** Try to actually have oral, anal, or vaginal sex with you?	YES	NO	If yes enter 1 _____
Did you **often** feel that:	No one in your family loved you or thought you were important or special? ***Or*** Your family didn't look out for each other, feel close to each other, or support each other?	YES	NO	If yes enter 1 _____
Did you **often** feel that:	You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? ***Or*** Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?	YES	NO	If yes enter 1 _____
Was your mother or stepmother:	**Often** pushed, grabbed, slapped, or had something thrown at her? ***Or*** **Sometimes or often** kicked, bitten, hit with a fist, or hit with something hard? ***Or*** **Ever** repeatedly hit over at least a few minutes or threatened with a gun or knife?	YES	NO	If yes enter 1 _____
Were your parents **ever** separated or divorced?		YES	NO	If yes enter 1 _____
Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?		YES	NO	If yes enter 1 _____
Was a household member depressed or mentally ill or did a household member attempt suicide?		YES	NO	If yes enter 1 _____
Did a household member go to prison?		YES	NO	If yes enter 1 _____

Total number of "YES" answers = ACE Score: _____

Adapted from Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The adverse childhood experiences (ACE) study. *Am J Prev Med.* 1998;14(4):245-258.

Explain

Explain is the third element of the 4 E's model of trauma-informed care, and trust building continues in this element.[29] NPs can explain to patients how their past experiences have affected their current life and health and how the healthcare team can assist them in improving their health by advocating for them, connecting them to care, and continuing to cultivate a positive patient–provider relationship. A goal of trauma-informed strategies is to create a safe environment so the patient feels comfortable returning for future visits.[34] NPs using a trauma-informed approach will need to fully discuss with patients why certain exams or procedures are important, explain in detail what to expect during the procedure, and answer any questions the patient may have. The NP may suspect that a procedure could trigger an anxiety response in a patient with a history of trauma; this can be discussed with openness and transparency.[29]

Fear of retraumatization can lead to multiple missed appointments for patients with a history of trauma.[34] This is an issue not only with office visits for procedures such as pelvic exams or rectal exams, but also for other types of care such as dental appointments in which patients can be triggered by the weighted vests needed for X-rays and by being required to lie back and hold their mouths open for long periods of time.[34] Ravi and Little offer a list of trauma-informed care actions for providers that may help to limit retraumatization during sensitive exams.[34]

For example, NPs should describe, in advance, sounds patients may hear and sensations they may experience during an exam.[34] During pelvic exams, NPs can also offer patients the option of self-inserting a speculum to give women more control over the procedure.[34] In general, to avoid retraumatization, the patient must be placed at the center of the procedure, and the NP must be willing to alter his or her usual routine to best accommodate the patient's needs.

Empower

A trauma-informed care approach should empower individuals to improve their health, which is why *empower* is the last of the 4 E's.[29] NPs using a trauma-informed approach recognize that often a power differential exists between healthcare providers and patients, and they actively seek to remove this barrier in order to promote patient empowerment.[28] NPs can use patient-centered care and shared decision-making strategies to involve the patient in healthcare decisions.

A trauma-informed system of care is described as being "strength-based," so the style of care should be centered on the patient with the NP as a facilitator of goal-setting and positive health choices.[28,29] NPs using a trauma-informed approach refrain from advising patients of what they need and instead educate patients on what services are available to them.[31]

For example, an NP may explain to a patient the importance of cervical cancer screening but also acknowledge that it could be a triggering event for a woman with a history of childhood sexual abuse. Instead of telling the patient she "needs a Pap test," explaining the procedure and encouraging her to make her own decision about whether to proceed builds trust with the patient and empowers her to make her own choice.

Empowering patients includes advocating for them.[29] Part of this is recognizing the impact trauma has had on the patient's life and ensuring that the NP is considering underlying causes of the patient's symptoms and health risk behaviors. It is critical that NPs assist patients in obtaining the best possible treatments for their conditions as well as to connect them to care and resources.[29] Mental illness and chronic illness should be treated with an evidence-based approach involving the patient in all aspects of decision-making. Motivational interviewing strategies can be used to facilitate goal development with the patient.

Mental illness and chronic illness should be treated with an evidence-based approach involving the patient in all aspects of decision-making.

Clinical case revisited

The NP has been ***educated*** *in trauma-informed care strategies. The NP discovers through the interview process that Mr. L meets the* Diagnostic and Statistical Manual of Mental Disorders: Fifth Edition (DSM-5) *criteria for posttraumatic stress disorder and understands through their conversation that he is using alcohol to self-medicate his symptoms.*[24,35] *The NP* ***empathizes*** *with the patient's situation and considers*

how his life has been impacted by trauma. Then, the NP ***explains*** *to the patient how his experiences as a child have affected his life and health as an adult and* ***empowers*** *him by asking what he thinks can be done to best help him to heal and to experience better overall health. Mr. L indicates that he is not suicidal and would prefer to not be hospitalized; however, he would like to restart an antidepressant.*

The NP chooses sertraline because it has been effective for the patient in the past and is indicated for both major depressive disorder and PTSD. After determining that blood draws are not a trigger, baseline labs are collected. With the patient in agreement, the NP places a referral for trauma-informed cognitive behavioral therapy (CBT) and explains to the patient that studies have shown that CBT reduces symptoms of PTSD in adults who have experienced trauma.[31]

The patient is asked when he thinks it would be best to return for a follow-up visit, and he indicates he wants someone to "keep an eye on him," so a follow-up appointment is scheduled for the next week. The NP also advocates for the patient by calling the therapist to obtain an expedited CBT appointment, connecting him to a resource that can help him find grant-funded housing, and ensuring that he has transportation to his follow-up visits.

Implications for practice

Interventions that focus on the primary prevention of ACEs are likely to have the greatest impact in reducing the detrimental effects of childhood trauma on families and communities. However, NPs and other healthcare providers who care for adults also have the opportunity to make a significant impact in mitigating the mental and physical health effects of ACEs. NPs who are trauma-informed routinely screen patients for ACEs, recognize the role that childhood trauma has in the development of health risk behaviors and illness, and use patient-centered approaches that empower patients to design plans for improved health that are focused on the patient's personal goals and values.

Conclusion

Extensive evidence has linked ACEs to numerous adverse health outcomes in a dose-dependent relationship.[4,5,7-9] Toxic stress during childhood disrupts nervous system development, stunting growth in the brain regions responsible for problem solving, impulse control, mood regulation, learning, and memory.[11,16] Consequences of ACEs include mental illness, chronic illness, disability, and early death.[4,5,7-9] ACEs have lifelong health ramifications that can be mitigated with proper treatment and a trusting relationship with a healthcare provider. NPs can implement trauma-informed care strategies, using the 4 E's model to educate, empathize, explain, and empower, to better care for patients who have experienced ACEs.[29] NP

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