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Posttraumatic Stress Disorder (PTSD) and Trauma in Children/Youth: Information for Primary Care

Summary: By the age of 16, it is estimated that 2/3 of the population will have experienced an adverse childhood experiences (ACEs) including trauma. As a result, some of these patients will be at increased risk of developing medical and psychological complications, including post-traumatic stress disorder (PTSD). Consider screening patients for adverse childhood experiences (ACEs), especially those presenting with known trauma history, mental health symptoms, chronic medical illnesses or unexplained medical illnesses. If screening is positive, patients can be provided with trauma-informed care, and when appropriate, referred for mental health interventions.

Case

Identifying data

- P. is a 15-yo female that lives with her single mother

Chief complaint

- Her mother comes to see you, “She won’t leave the house, I don’t know what to do!”

Goals

- For P. “to feel safe again”.

HPI

- Up until age 7, her father had been in the home, but unfortunately, he had problems with substance use, and she never felt safe, witnessing her father being verbally and emotionally abusive towards her and her mother
- Age 15, P. was sexually assaulted at a party by a group of males.
- Since then, she has been having nightmares, flashbacks, uncontrollable shaking, and as a result, has been having significant school refusal, along with agoraphobia.

Epidemiology

Prevalence of Adverse Childhood Experiences (ACEs)

About 2/3 of youth by age 16 will experience an adverse childhood event (ACE), such (Saunders, 2014).

Examples of ACEs

- Sexual or physical assault
- Witnessing violence
- Accidents
- Divorce/Separation in one's parents
- Hospitalization
- Death of a loved one
- Adoption/Foster Care

Of those who experience trauma, it is estimated that a minority (16%) will develop PTSD, but fortunately the majority (84%) do NOT develop PTSD (Alisic, 2014)

Prevalence of PTSD

- Adolescents (aged 13-18)
    - 5% of adolescents have met criteria for PTSD in their lifetime (Merikangas, 2010)
    - Gender difference: Females (8%) > males (2.3%)
- Children
    - Prevalence rates of PTSD in younger children in the general population are not available due to lack of studies.

Screening

When should you screen?

- All new patients: Some recommend universal screening (i.e. all new patients) in a primary care practice for ACEs, given that untreated ACEs increases the risk of physical and mental health issues later in life (Felitti, 1998).

- Targeted screening: Given limited resources, others recommend targeted screening, especially in patients who are presenting with:
    - Mental health visits
    - Unexplained somatic complaints
    - Numerous missed appointments
    - School refusal

How to screen?

- Ask new patients: “What is the scariest or most upsetting things that has happened in your child’s life?”
- Ask returning patients: “Since the last time I saw your child, has anything really scary or upsetting happened to your child or anyone in your family?”
- If screening is positive, then
    - Assess further for PTSD and other mental health sequelae;
    - Offer psychosocial supports as part of early intervention

Screening Tools

Children’s Impact of Events Scale (CRIES-8)

- Free, 8-items, 4-point scale designed to screen children at risk for PTSD (Horowitz, 1979; Perrin, 2005)
- Can be given to children aged 8+ who can read independently
- Possible cut-offs
- Cutoff score of 17 and above on the CRIES-8 is 75-83% sensitive for PTSD
- Even if PTSD criteria not met, children can still have significant symptoms
- Link to tool
    - http://www.childrenandwar.org/measures/children%E2%80%99s-revised-impact-of-event-scale-8-%E2%80%93-cries-8/

Child Trauma Screening Questionnaire (CTSQ)

- Free, 10-item self-report scale (Kenardy, 2006)
- Cut-off of 5+ predicts PTSD
- Link to tool
    - http://www.ementalhealth.ca/index.php?m=survey&ID=31
    - http://www.conrod.org.au/cms/resources-and-tools/child-trauma-research-unit/ctsq

History

The following history incorporates principles of trauma-informed care (Pukey, 2018). Modify questions as necessary depending on whether one is interviewing the child or caregiver:

Identifying data	To provide culturally appropriate care, consider asking (adults and youth) about: Marital status: “Marital status? Single? LGBT?” Culture: “First nations?” “New to Canada?” Religion/spirituality: “Do you consider yourself religious or spiritual?” Social determinants of health, e.g. poverty: “Any financial stresses?”
Screening question for trauma	For parents ● New patients: “What is the scariest or most upsetting things that has happened in your child’s life?” ● Returning patients: “Since the last time I saw your child, has anything really scary or upsetting happened to your child or anyone in your family?” For patients ● For new patients: “What is the scariest or most upsetting things that has happened in your life?” ● For returning patients: “Since the last time I saw you, has anything really scary or upsetting happened to you or anyone in your family?” If the respondent starts providing excessive details, reassure the patient that this is not necessary -- “I just need a rough idea -- you don’t need to go into details, unless you feel it’s necessary.”
Ask about the impact (as opposed to specific details)	“What is your understanding of what’s happened?” “What is worrying you the most about it?” “What do others in the family think about it?”
Ensuring safety	“Do you feel safe right now?” “Are you responsible for any others, e.g. children?” “Are they safe?” “Anything that we can do to help you feel safe?” (e.g. appointments during quieter times) “Anything that triggers you to feel unsafe?” “We can’t always promise, but I want to ask anyways… Do you have any preference about being seen by males or females?”
Family and patient-centred goals	“What are your best hopes from seeing me?” “How can I be helpful?”

Support patient's strength/resiliency	"With all you've been through, what has kept you going?" "Who do you turn to for support?" "Anyone else that could or should be a support?" "Would you be open to other services and supports?"

Diagnosis of PTSD and Related Conditions

DSM-5 Acute Stress Disorder

1. Has there been a traumatic incident?
2. Have the below symptoms appeared within 30-days of the traumatic incident?
3. If so, then definition it is Acute stress disorder (ASD)

Trauma, plus 9 of 14 from 5 clusters	
1. Intrusion	Involuntary and recurrent memories, nightmares, flashbacks, distress after exposure to triggers May re-enact trauma in play
2. Avoidance	Avoidance of trauma-related •Internal reminders: Thoughts/feelings •External reminders: People, places, activities, objects, situations
3. Negative Cognitions and Mood	Negative beliefs about self ("I'm bad") or world ("the world is completely dangerous") Guilt, shame, fear, horror, emotional numbing May become extremely clingy
4. Arousal and Reactivity	Irritability, aggression, hypervigilance, troubles with focus, exaggerated startle response, sleep problems May regress from being overwhelmed, e.g. bedwetting; stop speaking
5. Dissociation	Altered sense of reality Inability to remember the event

DSM-5 PTSD

1. Has there been a traumatic incident?
2. Have the below symptoms lasted for over a month?
3. If so, then by definition, it is post traumatic stress disorder (PTSD)

Trauma, plus	
1. Intrusion	Involuntary and recurrent memories, nightmares, flashbacks, dissociation, distress after exposure to triggers May re-enact trauma in play
2. Avoidance	Avoidance of trauma-related •Internal reminders: Thoughts/feelings •External reminders: People, places, activities, objects, situations
3. Negative Cognitions and Mood	Can't remember key features of trauma Negative beliefs about self ("I'm bad") or world ("the world is completely dangerous") Guilt, shame, fear, horror, emotional numbing May become extremely clingy

4. Arousal and Reactivity	Irritability, aggression, hypervigilance, troubles with focus, exaggerated startle response, sleep problems May regress from being overwhelmed, e.g. bedwetting; stop speaking

Mnemonic (“Trauma)

The mnemonic “trauma” is an easy way to remember the criteria for PTSD (Khouzam, 2001):

Criteria	**Possible questions**
T)raumatic event	What is the scariest or most upsetting thing that has happened in your life?
R)e-experiences of trauma by intrusive thoughts, nightmares, flashbacks, or recollection of traumatic memories and images.	Do you find that you get nightmares about the trauma? Or that you can’t stop thinking about it?
A)voidance and emotional numbing	Have you found yourself avoiding things that remind you of the trauma?
U)nable to function, due to symptoms causing impairment in social, occupational, and interpersonal functioning	Have you had troubles functioning since the trauma?
M)onth: i.e. symptoms last more than one month for PTSD; or less than one month for ASD	Have your symptoms lasted more than a month?
A)rousal: Increased Arousal, usually manifested by startle reaction, poor concentration, irritable mood, insomnia, and hypervigilance	Ever since the trauma, have you found yourself more nervous or on edge? Getting scared easily? Troubles focusing? More irritable? Troubles sleeping? Feeling more stressed out?

Diagnostic Tools

Clinician Administered PTSD Scale for DSM-5 (CAPS-CA-5)

- Validated scale that can be used to help with the diagnosis of DSM-5 PTSD.
- Scale is free upon request, consists of 30-items, and is designed to be given by a healthcare professional including primary care providers.
- Link to scale
    - https://www.ptsd.va.gov/professional/assessment/child/caps-ca.asp

Differential Diagnosis (DDx) of Trauma / PTSD

After trauma, there are many possible sequelae, including medical and psychiatric, of which PTSD is one of them. In addition, there are other conditions that can present with autonomic arousal, cognitive symptoms, etc.

Psychiatric DDx (and comorbidity) includes:

The following conditions may be better explanations for the patient’s symptoms, or the patient may have trauma / PTSD plus a comorbid condition such as:

Condition	**Questions**
Major depressive disorder	Any problems with depressed mood?
Adjustment disorder	Any big stresses lately? Any troubles coping or adjusting to the stress?

Anxiety disorders such as generalized anxiety, panic disorder, phobias, etc.	Is your child a big worrier? What sorts of worries?
Attention deficit hyperactivity disorder (ADHD)	Any troubles focusing or paying attention? Any hyperactivity, such as troubles sitting still, or constantly moving?
Attachment problems (e.g. Reactive attachment disorder of childhood)	Did ___ have any troubles connecting or attaching to caregivers? Avoidant? Or clingy?
Substance and alcohol use	Screeners include AUDIT CRAAFT
Psychosis	Hearing things that others do not? Seeing things that others do not? Are there any people out to harm you?

Medical DDx of Trauma / PTSD includes:

Condition	**Questions**
Thyroid Hyperthyroidism can lead to restlness, insomnia, autonomic hyperactivity, which are also seen in PTSD	Any complaints of being much hotter than others? Any complaints of being much colder than others
Neurologic If the trauma was physical (e.g. motor vehicle accident, physical assault), , there may be traumatic brain injuries such as concussion	After the trauma, any problems with: * Memory? * Concentration? * Headaches? * Fatigue?
Sleep disorder	Problems with sleeping? Did these problems exist prior to the trauma?

Physical Exam

Vitals	May show signs of autonomic arousal, e.g. increased heart rate shortly after a traumatic event, hypervigilance
General	Any visible signs of injury or trauma, e.g. head? Any signs of intoxication? (suggesting substance use issues)

Investigations

There are no laboratory investigations for diagnosing PTSD currently. However, investigations may help with assessing for associated conditions:

Condition	Investigations
Thyroid ● Hyperthyroidism can lead to restlessness, insomnia, autonomic hyperactivity, which are also seen in PTSD	Thyroid indices such as ● TSH ● Free T4
Neurologic ● If the trauma was physical (e.g. motor vehicle accident, physical assault), , there may be traumatic brain injuries such as concussion	Brain imaging

● Sleep disorder	Sleep studies
Substance use	Urine screening

Management of PTSD: Psychotherapy

Offer the patient a referral to trauma services such as:

- Mental health services.
- Agencies and organizations with specific trauma expertise
- Private practice professionals with expertise in trauma such as:
    - Psychologists
    - Social workers
    - Counselors
- If the individual was victimized or traumatized as a result of a crime, ask if there may be are additional 'victim services' available.

Looking for a specific type of trauma therapy?

- For trauma-focused CBT | www.tfcbt.org
- For EMDR | http://emdrcanada.org

Management of PTSD: Medications

If non-medication management has been unsuccessful, consider medications for specific symptoms.

Is there significant hyperarousal, nightmares?

- Guanfacine
    - Uncontrolled trial suggested may help intrusive / hyperarousal symptoms
    - Dosage:
        - 1-4 mg bedtime
- Prazosin
    - Systematic review suggests prazosin, an alpha-1 adrenergic antagonist, may be effective for sleep disruption or nightmares when prescribed at night in children with PTSD (Akinsaya, 2017)
    - Dosage:
        - Start at 1 mg at 30-min. before bedtime; increase by 1 mg q3-4 days up to 4 mg daily

Are there nightmares?

- Cyproheptadine (Periactin)
- Antihistamine with anticholinergic, antiserotinergicproperties
- Case series showed decrease in nightmares (Gupta, 1998)
- Dosage
    - 4 mg bedtime for age 9-yo (Gupta, 1998)
    - 4-12 mg for adult nightmares in PTSD

Is there PTSD?

- Insufficient evidence for SSRIs in children/youth for PTSD alone.
- No differences in PTSD symptom reduction were seen between SSRI compared with placebo in multiple small randomized trials with:
    - Sertraline (Robb, 2010)
    - Sertraline (Cohen, 2007)

- Imipramine, Fluoxetine (Robert, 2008)
- Sertraline – mixed (Stoddard, 2011)

Is there PTSD plus comorbid depressionanxiety?

- Although evidence for PTSD alone appears negative, consider SSRIs if there is comorbid depression/anxiety

Antipsychotics?

- Evidence for antipsychotics in PTSD is lacking.
- There is insufficient evidence to recommend antipsychotics in PTSD (David Brent, Up To Date, 2018).

Management of PTSD: What if standard talking therapy hasn't worked?

When standard talking therapies haven't worked, it may imply that the patient is unable to access their rational brain (i.e. neocortex). This can happen when the brain is overwhelmed at lower, subcortical levels such as the emotional brain (i.e. limbic) or primitive brain (i.e. midbrain and cerebellum) (Perry, 2006).

A classic example in patients with PTSD would be a patient re-experiencing trauma with flashbacks, as the brain has not been able to process the traumatic memory. Well meaning family and professionals appeal the rational brain by explaining "Don't worry, you are safe", yet the symptoms persist, implying that the rational (neocortical) intervention is not enough, and that a lower subcortical intervention is required.

The neurosequential model of therapeutics (NMT) is a formal way of evaluating the patient's brain, in order to optimally target interventions at the lowest level where there is an issue.

Has the patient not responded to CBT or classic talking therapies?

- Ensure specific therapies designed for trauma, such as
- EMDR
- Trauma-focused CBT as opposed to CBT

Are there significant relationship issues? Consider relational, interpersonal or attachment therapies such as

- Emotion-focused therapy (EFT)
- Interpersonal psychotherapy (IPT)
- Attachment-based therapies (e.g. attachment therapies such as dyadic developmental psychotherapy (DDP))

Consider non-talking therapies (Perry, 2006) such as:

- OT services (especially if sensory/motor /self-regulation issues)
- Therapeutic massage (for infants, children, youth)
- Movement, e.g. Dance and movement therapy
- Music and rhythm therapy
- Therapeutic drumming
- Yoga (including breathing)
- Expressive arts
- Arts and crafts therapy
- Play therapy
- Nature, e.g. Animal assisted therapy / Horticulture

1. You are seeing a 15-yo with PTSD. What is your first intervention?

- ○ Refer to trauma-focused CBT.
- ○ Teach her deep breathing exercises for calming.

- ○ Teach her and her family about PTSD.
- ○ Start an SSRI.
- ○ Ensure she feels safe.

2. She sees a therapist for cognitive behavioural therapy (CBT), but just cannot seem to use her strategies when triggered. What do you recommend?

- ○ Positive consequences for when she uses her coping strategies.
- ○ Remove privileges (e.g. screen time) when she does not use her coping strategies.
- ○ Start a trial of an SSRI.
- ○ See a different CBT therapist.
- ○ 'Non-talking' therapies and interventions such as subcortical therapies (e.g. EMDR).

Clinical Practice Guidelines

American Academy of Child and Adolescent Psychiatry (AACAP)
https://www.jaacap.org/article/S0890-8567(10)00082-1/pdf

NICE Guidelines for Treatment of Children, Youth and Adults with PTSD
https://www.nice.org.uk/guidance/cg26

American Academy of Pediatrics, Trauma Toolkit
https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/healthy-foster-care-america/Pages/Trauma-Guide.aspx#trauma

References

Akinsanya A et al.: Alisic E et al.: Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: meta-analysis, Br. J. Psychiatry. 2014; 204:335-40.
https://www.ncbi.nlm.nih.gov/pubmed/27930498

Alisic E et al.: Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: meta-analysis, Br. J. Psychiatry. 2014; 204:335-40.

American Academy of Pediatrics, Addressing Adverse Childhood Experiences in the Primary Care Setting
https://www.aap.org/en-us/Documents/ttb_addressing_aces.pdf

Felitti V 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):245-58.

Gupta S et al.: Nightmares Treated with Cyproheptadine, JAACAP, June 1998; 37(6): 570-571.

Kenardy et al.: Screening for Posttraumatic Stress Disorder in Children After Accidental Injury, Pediatrics, 118(3): 1002-1009, Sep 2006.

Khouzam H: A simple mnemonic for the diagnostic criteria for post-traumatic stress disorder. West J Med. 2001 Jun; 174(6): 424.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071434/

MacLean P: The Triune Brain in Evolution, 1990.

Perrin S et al.: The Children's Revised Impact of Event Scale (CRIES): validity as a screening instrument for PTSD, Behavioural and Cognitive Psychotherapy, October 2005, 33(4):487-498.

Perry, B. D. (2006). Applying Principles of Neurodevelopment to Clinical Work with Maltreated and Traumatized Children: The Neurosequential Model of Therapeutics. In N. B. Webb (Ed.), Social Work Practice with Children and Families. Working with traumatized youth in child welfare (pp. 27-52). New York, NY, US: Guilford Press.

Purkey P et al.: Commentary: Trauma-informed care, Canadian Family Physician, 2018 Mar; 64(3): 170-172. http://www.cfp.ca/content/64/3/170

Saunders B: Epidemiology of Traumatic Experiences in Childhood, Child Adolesc Psychiatr Clin N Am. 2014 Apr; 23(2): 167-184.

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