

## Childhood Trauma: Acute and Post-Traumatic Stress

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### I. BACKGROUND, EPIDEMIOLOGY AND RELEVANCE

- a. Introduction
- b. History of trauma-related diagnosis
- c. Traumatic events
- d. Epidemiology
- e. Developmental traumatology

#### INTRODUCTION

Childhood trauma is a common presenting issue for the practicing clinician. The range of phenomena that bring about these issues can range from pediatric acute and chronic illness, to sexual abuse, and even entail mass trauma as the events surrounding the destruction of the World Trade Center in New York City highlight.

#### HISTORY OF TRAUMA-RELATED DIAGNOSIS

- Initially, the definition of traumatic events and the research that ensued were limited to war duty.
- In the 1970s the diagnosis of PTSD was formally introduced into the mental health nomenclature.
  - research in this area was largely based on adult men.
- In the last 20 years the experiences of:
  - the general population
  - women
  - specific ethnic groups
  - children

#### TRAUMATIC EVENTS

##### Levels of Trauma

- Environment
- Community/Family
- Individual

Figure 1

Traumatic events can be described as impacting children on at least one of the following three levels: the self, the community, and environment. (Figure 1)

- Children may be particularly susceptible
  - dependency on adults for care and safety
  - limited ability to influence the events and surroundings
  - cognitive and emotional level of development

Consequences of trauma are influenced by:

- level of exposure and duration of trauma
- pre-existing psychopathology prior to trauma exposure
- the impact of trauma on a child's social structure
- biological factors contributing to a child's predisposition to trauma
- resilience
- **subjective experience of potential harm** (more than actual events)

Different types of trauma impact children to varying degrees:

- natural disasters result in a lower rate of PTSD development
- chronic, war-related traumas – higher rate
- Interpersonal-related traumas, such as physical or sexual abuse - highest rates

Severity of psychological symptoms in physical and sexual abuse:

- duration of abuse
- closeness of the perpetrator
- use of violence

Sexual abuse in children is associated with the development of:

- depression
- anxiety
- behavioral problems
- sexualized behaviors
- PTSD
- psychiatric problems in adulthood
  - substance use disorders
  - social anxiety
  - depression
  - higher risk for attempting suicide

Additionally, children who are victims of violent crimes are at high risk for:

- PTSD
- anxiety
- depressive disorders
- internalizing and externalizing behavioral problems

Children who witness violence may develop trauma-related pathology:

- psychological distress and symptomatology
- anxiety
- hypervigilance
- decreased concentration

Community-based studies have reported more than 80% of inner-city adolescents have seen someone physically assaulted, 40% have seen someone shot or stabbed, and almost 25% have witnessed a homicide.

Terrorism can create an environment of fear and intimidation within society persisting for prolonged periods of time. The rates of PTSD in children exposed to terrorism activity appear to range from 28% to 50%.

Indirect exposure to violence, such as television viewing of traumatic events, has been shown to increase children's risk for trauma-related symptoms, in particular PTSD-related symptoms. Natural disasters such as flash floods, hurricanes, and earthquakes have all been found to produce trauma-related pathology in children.

It is also important to recognize children's responses to traumatic events can be influenced by their parents' response. Positive correlations have been found between children's and parents' symptomatology following trauma. Increased resiliency in children experiencing trauma-related stress is related to:

- having a parent who models appropriate coping mechanisms
- having a stable and secure emotional relationship with at least one parent
- social support
- community educational, political and religious support

## EPIDEMIOLOGY

- General population:
  - approximately 69% lifetime chance of an extraordinary event
  - about 20% become traumatized
- In an urban population study:
  - over one-third of young adults experienced trauma in their lifetime
  - approximately 24% of these exhibited symptoms of PTSD

- Adolescents:
  - 40% experience some traumatic event during their teen years
  - approximately 14% later developed PTSD
- 38% of children exposed to violence in the community show symptoms of PTSD
- Only a fraction of people going through extraordinary situations become ill, depending on the intensity of experience and nature of trauma
- Personality and coping styles play a part in a child's response to events

## DEVELOPMENTAL TRAUMATOLOGY

The field of developmental traumatology is a relatively new focus of child psychiatric study. It is defined as a systematic investigation of biological, psychological and sociological impacts on children who have experienced maltreatment and/or trauma, in an attempt to identify varying biopsychosocial effects throughout the developmental stages of a child into adulthood. Recent advances in neuroimaging and neurochemical research has shed considerable light onto the biological effects of trauma in children.

Please refer to the [Neurobiological Processes Involved in the Stress Response \(PDF\)](#)

## II. ASSESSMENT AND DIAGNOSIS

### a. Interview

### b. Psychological assessment

#### Stages in the Development of PTSD

Phase I:

- Traumatic events
- Acute Stress Disorder.

Phase II (development of PTSD)

- Flashbacks
- Nightmares
- Hyperarousal
- Avoidance
- Numbing

Phase III (chronic PTSD)

- Explosiveness
- Irritability
- Panic
- Generalized anxiety
- Depression
- Social phobia
- Somatization

Figure 2

#### Sequence of Evaluation and Treatment of Trauma in Children

- Interview
  - collateral history
  - how to interview
- Psychological testing
- Psychotherapy
- Pharmacotherapy

Figure 3

## INTERVIEW

**The primary care provider may be in a unique position to begin the diagnostic assessment by initiating the interview process.** However, the necessary information is often not forthcoming. Clinicians should note:

- The younger the child, the worse he or she is as a self-observer and reporter.
- Information is provided by the parents of young children.
- Information is displayed by the children in play.
- School age children have some ability to report complex information, but:
  - fairly simple reports
  - misunderstanding is common
- Children, often do not associate feelings with traumatic events.
- Children may not report events that may seem far in the past.
- Children who are sexually abused are often sworn to secrecy by the abuser.
- Parents may report behavior without specific knowledge of the trauma.
- Adolescents may not have the motivation to collaborate in their own treatment. Adolescents and children often presume personal responsibility and guilt.
- Threats from the perpetrator decrease the likelihood of reporting.
- **CHILDREN AND ADULTS SHOULD BE INTERVIEWED SEPARATELY AND TOGETHER.**
- Many trauma victims deny or minimize the factors surrounding the event.
- Teachers, school counselors, and school psychologists — a more objective assessment of the child's behavior in structured settings.
- Trauma can often be the hidden cause of psychopathology in the absence of significant reported life events.

### How to interview

Clinicians initially prepare the child and family or guardians in an unstructured format to allow open-ended exploration of leads that may arise, and then proceed in a more structured and thorough way to obtain details of the history. While this combination approach represents a good set of practices, there may be circumstances where alternative approaches are needed and therefore clinical judgment is always necessary. Table 1, on page 5, contains items that may appear in a clinical interview of a pediatric patient who has experienced trauma.

Take care when interviewing children if the clinical data is to be used for judicial or investigative purposes. Children and adolescents are suggestible, and thus leading questions, (for example, the type of questions that are usually part of a structured interview), although never a good strategy in clinical practice, are especially problematic in this context.

The differentiation of false from true traumatic memories is complex and inconsistent. Clinicians in the initial stage of an assessment should address the current state of the child and his/her needs.

Please refer to the [Recall of Trauma \(PDF\)](#)

## PSYCHOLOGICAL ASSESSMENT

Psychological and neuropsychological testing can be beneficial in assessing a trauma-related diagnosis, particularly when there is a question of differential diagnosis or comorbidity or when children are reluctant or unable to discuss the trauma or their feelings. Instruments commonly used include **The Child Trauma Inventory (CTI) and the Child Trauma Questionnaire (CTQ) (95)**. **Sample items from the CTQ may help inform clinical interviews (Table 1)**. In addition to the standard psychological assessment measures, more specific measures have been designed to assess problematic behavior of children who have been sexually abused.

**Table 1**

Sample Items from the Child Trauma Questionnaire (CTQ)

Factor I: Physical and emotional abuse (5/23 items)

- People in my family hit me so hard that it left me with bruises or marks.
- The punishments I received seemed cruel.
- I was punished with a belt, a board, a cord, or some other hard object.
- Someone in my family yelled and screamed at me.
- People in my family said hurtful or insulting things to me.

Factor II: Emotional neglect (5/16 items)

- I felt like there was someone in my family who wanted me to be a success.
- There was someone in my family who helped me feel that I was important or special.
- My family was a source of strength and support.
- People in my family felt close to each other.
- Someone in my family believed in me.

Factor III: Sexual abuse (five/six items)

- I believe that I was sexually abused.
- Someone molested me.
- Someone tried to make me do sexual things or watch sexual things.
- Someone tried to touch me in a sexual way or tried to make me touch them.
- Someone threatened to hurt me or tell lies about me unless I did something sexual with them.

Factor IV: Physical neglect (5/11 items)

- There was enough food in the house for everyone.
- I lived in a group home or a foster home.
- I had to wear dirty clothes.
- I was living on the streets by the time I was a teenager or even earlier.
- I knew that there was someone to take care of me and protect me.

Each item begins with the phrase "When I was growing up," and is rated on a 5-point Likert-type scale. Response options are "never true," "rarely true," "sometimes true," "often true," and "very often true." Factor II items are reverse coded. (Bernstein, et al. Am J Psychiatry 1994; 151:1132-1136)

### III. MANAGEMENT

- a. **Treatment: Non-pharmacological**
  - i. **Factors that influence treatment**
  - ii. **Confidentiality**
  - iii. **Psychotherapy**
    1. **What happens in therapy**
  - iv. **Additional forms of therapy**
- b. **Treatment: Pharmacological**
- c. **Conclusion**

#### TREATMENT: NON-PHARAMACOLOGICAL

PTSD and trauma-related psychopathology have been treated for many decades. Numerous studies have reported many different kinds of interventions, for example, eye roll movements, hypnosis, psychoanalysis, cognitive therapy, and psychopharmacology.

The present literature concludes that psychopharmacology and various forms of psychotherapy are all moderately effective, that many interventions show promise, and that **most interventions are not rigorously tested in children and adolescents**. It also appears that various treatments target different aspects of the syndrome. Medications seem to reduce intrusion and “startle response” problems, as do behavioral treatments. Psychodynamic treatments seem to work better on avoidance symptoms, although this result is variable across studies and has not been adequately studied in children. There are likely to be differences across ages, given the different nature of child PTSD.

### Factors that Influence Treatment

- Culture of the patient should
- Race, ethnicity, and religion of a patient can influence reporting symptoms that may be considered taboo or embarrassing.
- Patients may be embarrassed or blame themselves.
- Family and communities may also blame, ostracize, the victim.
- If a family member has perpetrated the abuse,
  - the perpetrator may be addressed within the family, or
  - the interference of “outsiders” is resented.
- Hitting or alienating a child for unacceptable behavior may be standard in certain cultures.

### Confidentiality

Confidentiality is often a confusing issue for primary care providers. The limits of confidentiality can significantly affect therapy with trauma victims.

- Although the specific laws vary slightly among states, **clinicians are legally and ethically obligated to report suspected abuse and in most cases are legally protected in making reports that turn out to be without merit**.
- Parents, children, and adolescents should all be informed about the limits of confidentiality. In cases in which abuse is the presenting problem, the issue of confidentiality can be addressed at the beginning of therapy in relation to the trauma.
- Patients should be made aware, however, that these limits also apply to other instances of abuse that might be revealed during the course of therapy. This is an important point to stress, since traumatized or abused patients have often experienced more than one significant trauma.

### Psychotherapy

- The formal psychotherapy of PTSD is usually outside the purview of the primary care practitioner.
- However, the trusting relationship between the PCP, patient, and family can be an invaluable component of the treatment plan, and may ensure the initiation of appropriate therapy.
- OPPDSN can provide appropriate referral resources, and the PCP can provide support and reassurance for the patient and family.
- The PCP can and should be regarded as a member of the treatment team, and be kept apprised of the progress of treatment.

### What happens in psychotherapy for trauma

- Individual treatment is the mainstay of intervention. Psychodynamic elements are intended to help develop a treatment alliance with children, help the clinician manage the therapeutic relationship, and possibly target memories in order to uncover important details of the original trauma. The typical course progresses in three stages:
  - **Phase one is exploratory (two to five sessions)**; the nature and extent of the traumatic event is established while a solid working alliance is built. This phase is completed when the patient and clinician agree on a scenario of the events that traumatized the patient and on a course of exposure or desensitization (depending on the comorbidity), the familial resources, and the patient’s ego strengths and defense profile. More resilient patients with many resources usually receive some form of exposure, in which the traumatic event is reworked and the patient rapidly works up to flooding therapy. These patients, however, are still cognizant of some of the severe side effects this method may produce. More complicated cases should be approached gradually, with a model based on the prevention of relapse.
  - **Phase two (6 to 15 sessions), the behavioral program is carried out** and is supplemented by further exploratory sessions as needed to work through patient resistance. In the first two phases, ongoing treatment is provided every week. After these phases, regular clinic contact is terminated.

- **Phase three of treatment (up to 2 to 3 years as necessary, with very intermittent contacts), the patient is encouraged to practice on his or her own** and to return when progress stops or symptoms reoccur. Such relapses are then handled in the course of one to three sessions. Play therapy and drawings are productive with younger children, and more traditional forms of therapy benefit older adolescents. At all phases of treatment, the patient's need for psychopharmacology is assessed.
- **Cognitive behavioral therapy (CBT)** has shown effectiveness in treating children who are victims of sexual abuse. Trauma-focused cognitive behavioral therapy (TF-CBT) develops skills in expressing feelings, coping, and developing a sense of the connections between emotion, behavior and feeling. It also includes some exposure by using narrative, processing, parenting skills and psychoeducation.

### Additional Forms of Therapy

- **Psychoeducation** can be extremely beneficial for parents of children who have experienced a trauma. Often parents are scared, confused, and uncertain about the origins of their child's behavior and the prevalence of symptoms. They often need to learn new strategies and parenting skills to deal with problematic behavior such as anger outbursts and flashbacks. In addition, children and especially adolescents can gain security in knowing that their symptoms are valid and within the normal range of experiences for individuals affected by a traumatic event. **Psychoeducation can often be very effectively conducted by the primary care provider, who is trained in normal development and familiar with the individual patient and family.**
- **Group therapy** often helps children and adolescents understand that their symptoms are experienced by others and allow them to learn coping strategies from those who have been through similar circumstances. Group therapy should begin following an initial assessment of the trauma and related symptoms. **It is not recommended as the initial form of therapy in the case of severe trauma,** since children are likely to experience symptoms during the initial telling of their traumas that may be better managed in initial individual sessions. An initial assessment should differentiate between those patients who can present their experience in a group and withstand the exposure to others' traumas and those who require individual work prior to sharing with others. For the latter patients, once individual therapy has started, group therapy can be used as a means of continued support.
- Particularly in the instance of abuse, **family therapy** can be beneficial for the patient as well as the individual family members. When one member of a family experiences a trauma, everyone in the family is affected. Feelings of insecurity, fear, guilt, and shame can all be present in family members as a result of the trauma. When the perpetrator of abuse is within the family, family therapy is essential for assessing family structure and relationships within the family, as well as the development of new roles within the family. Decisions about whether to include the perpetrator in therapy should be decided on a case-by-case basis and should take into consideration the stage of recovery of the victim, the perpetrator's understanding of the abuse and his or her involvement in treatment, and reunification issues.

### TREATMENT: PSYCHOPHARMACOLOGY

The primary care provider may often be approached to provide pharmacologic intervention, at least until a psychiatrist can be contacted; or in follow-up after a psychiatric evaluation. **The evidence for the efficacy of drugs is quite weak for the treatment of children and adolescents with PTSD.** At present, one can only extrapolate from studies of adults, which is of course problematic. **Psychotherapeutic interventions should be tried first;** only if patients fail to progress or if symptoms are so overwhelming as to incapacitate the patient should the clinician consider medications. A trial of medicine should be started **if symptoms do not begin to recede after about 4 weeks of adequate intervention or when symptoms are so incapacitating to make management impossible and there is pronounced interference with developmental tasks.**

Appropriate targets for treatment appear to be predominantly the intrusion and hyperactivity-related symptoms of PTSD respond. Early PTSD presents flashbacks, nightmares, hyperarousal, avoidance and numbing. Chronic PTSD presents explosiveness, irritability, panic, generalized anxiety, depression, social phobia and somatization. Pharmacologically, these stages can be approached with different sets of medications but will likely require multiple interventions including psychotherapy and family therapy. OPPDSN can provide guidance to primary care providers in managing these modalities.

- **Selective serotonin reuptake inhibitors (SSRIs)** have been the mainstay of PTSD treatment for the past decade, although the evidence for their utility in children is supported by limited studies. A study of eight adolescents with a 20mg fixed dose of citalopram reported improvements in arousal level and startle response. The use of SSRIs in children has become a point of controversy in recent years, and all drugs in this class now have a block box warning for the possible development of suicidal ideation with the initiation of SSRI therapy. Clinicians need to monitor all children for this potential effect, and caution should be exercised when starting any new medication.

- Limited data is available on the use of **mood stabilizers** like Divalproex sodium. Studies have shown that Divalproex sodium can significantly reduce intrusion, avoidance and arousal in children with PTSD. Mood stabilizers seem to reduce arousal, irritability, and explosiveness, and thereby theoretically blunt the transition from early PTSD to chronic PTSD.
- Should SSRIs and mood stabilizers fail, then consideration can be given to using beta-blockers, alpha-blockers and **atypical antipsychotics**. Each of these classes of medications has had some limited success in treating PTSD symptoms in children. Minor tranquilizers are apparently not useful on an ongoing basis, changing little of the core pathology of PTSD, but can be used for brief symptomatic relief. One has to be mindful of the potential abuse of these drugs, especially in teenagers or in chaotic families in which parents might avail themselves of medications prescribed for their children. The antipsychotic medications present a special challenge because of their **metabolic side-effects**. Physicians treating patients with these drugs should monitor weight, blood glucose, insulin and insulin resistance, lipids, and other appropriate metabolic parameters. Among these drugs, **risperidone** has been most studied. Clinicians may use daily doses of 0.25 mg to 2.0 mg, usually in a pattern of gradually increasing divided doses.

**Drugs should never be considered the primary mode of treating PTSD in this age group, and all patients, given the current state of knowledge, should receive a carefully reviewed and comprehensive psychotherapy package.**

## CONCLUSION

It is evident that knowledge about childhood trauma is rapidly changing. The field of developmental traumatology is newly emerging and evolving, and the results will likely be to change our understanding of the mind and the effects of early trauma. In addition, as the neuroscience behind childhood trauma becomes clearer, the resulting changes in interventions from pharmacological, psychotherapeutic, and sociotherapeutic perspectives will have to alter and progress. It is incumbent on practitioners to be vigilant about these coming changes in order to provide the highest level of care for this population of children.

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