Posttraumatic Stress Disorder due to Child Abuse and Neglect

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Background

Child abuse and neglect, or, more generically, child maltreatment, is a pervasive problem facing children and families throughout the world. In the United States, approximately 905,000 children were found to have been maltreated in 2006, most of whom (66.3%) were neglected. Sixteen percent were physically abused, 8.8% were sexually abused, and 6.6% were psychologically or emotionally abused.[1] These various forms of child maltreatment can result in many long-term physical and emotional consequences, including posttraumatic stress disorder (PTSD).

In a 2005 survey of mental health clinicians who treat pediatric patients, interpersonal victimization emerged as the most prevalent form of trauma exposure, including physical abuse, sexual abuse, and emotional abuse, as well as exposure to domestic violence and the disorganization that results from parental substance abuse in the household.[2] van der Kolk points out that surveys such these reveal a relatively low prevalence of childhood exposure to noninterpersonal trauma such as accidents, disasters, or several illness compared with the intrafamilial and interpersonal traumas delineated above.[3] This topic discusses the problem of PTSD and how it manifests in children.

Children may face trauma that threatens their integrity, safety, or even life. The loss of control, the unpredictability, and the extremely aversive nature of the event or events are the main pathogenic elements. The family is known to pay a vital role in determining the eventual impact of the traumatic experience on the child, and parental support is often determined to be a key mediating factor in how the child experiences and adapts to the victimizing circumstances.[3] The support of a child's family, along with adequate coping and emotional functioning of the child's parents, may very well mitigate against the development of PTSD in a child exposed to trauma.

The range of normal emotional responses to trauma is broad, encompassing fear, anger, sadness, and humiliation. Traumatic stress refers to the physical and emotional responses to events that threaten the life, physical safety, and/or psychological integrity of the child or someone important to the child. Traumatic experiences are described as unexpected and unpredictable and are experienced as uncontrollable and terrifying. Emotional responses to traumatic experiences are typically perceived as overwhelming and may include terror, helplessness, and extreme physiologic arousal.

Most traumatized children do not develop long-term sequelae as a result of the trauma; however; a significant minority respond in a way that has a long-lasting, major impact on their emotions and behaviors. These children are at risk for PTSD, regardless of whether the child is subjected to a single traumatic event or to an ongoing pattern of abuse. Traumatic experiences may vary according to numerous characteristics, including (1) the immediate cause; (2) the number of experiences over time (chronicity); (3) the degree of physical effect, both immediate and long term (severity); and (4) the occurrence of subsequent disruptive events (associated factors).

Some forms of child maltreatment result in actual physical injuries that may require intensive, often painful and frightening, medical treatment. In such cases, the psychological impact encompasses the experiences of both the physical abuse and the painful medical treatment required. Accordingly, it is left to the child victim to define an event or experience as traumatic; the role of the health care professional who seeks to help such a child is to shoulder the

responsibility of treatment and assistance.

The essential features of PTSD include the following:

- A child is exposed to an actual or threatened death or serious injury to himself or herself or to another person and has a reaction to this event that includes intense fear, horror, or, particularly in children, disorganized or agitated behavior.
- The child re-experiences the event (eg, through flashbacks or nightmares). In children, nightmares may have general frightening themes rather than one that specifically involves the abuse. Re-experiencing may take on the form of repetitive play.
- The child avoids stimuli associated with the trauma, has a numbing of emotional responsiveness, and experiences diminished interest and a sense of a foreshortened future. Children may not report diminished interest, but caretakers may observe it. In children, a sense of a foreshortened future may manifest as a belief that they will never become adults.
- Children may also have somatic symptoms, such as stomachaches and headaches.
- The child has increased physical arousal with an exaggerated startle response.

In this article, the nature of the effects of traumatic experiences on the psychic functioning and emotions of children is examined, as well as the effects of traumatic experiences on the child's physiology, the clinical picture of these conditions (ie, how to recognize them), and several intervention strategies for children of different ages. Other topics are devoted to the problem of child and adolescent maltreatment and disordered parent-child relationships (see Child Abuse & Neglect: Physical Abuse, Child Abuse & Neglect: Sexual Abuse, Child Abuse & Neglect: Reactive Attachment Disorder) In the upcoming Diagnostic and Statistical Manual of Mental Disorders (DSM) V, trauma-related disorders and stressor-related disorders is a new category that includes anxiety and adjustment disorders and reactive attachment disorder, which were all previously described in DSM IV.

Posttraumatic stress phenomena in children and adolescents have been recognized only in the past few decades. In adults, the effects of exposure to violence and witnessing atrocities were first clinically described after World War I. Severe anxiety symptoms such as persistent and frightening recollections, flashbacks, and constant anxiety were described as war neurosis or shell shock syndrome. After the Vietnam War, many veterans sought help because of the constant anxiety and re-experiencing of war scenes, which, in some cases, continued for years after they returned home.

Until recently, immaturity was believed to protect children from long-term sequelae of trauma. Traumatic experiences that occurred during infancy and preschool years were thought to be forgotten, and older children were thought to recover quickly. However, research has confirmed that children may experience PTSD. A separate diagnostic category for preschool children has been proposed for DSM V. Although consensus has not been reached regarding criteria for this diagnostic entity, the efforts are designed to more clearly delineate symptoms based on development and expression of symptoms. In addition, strong consideration is being given to adding the loss of a caregiver of attachment figure as a criterion for childhood PTSD.

The frequency and total number of traumatic events appears to influence the presence and severity of psychological sequelae. This is also often complicated by further traumatic experiences. However, not all children who experience acute stress reactions develop PTSD.

Terr (1983) made a groundbreaking contribution to the understanding of PTSD in her research of 25 children who had been kidnapped from a bus and buried underground for an extended period. She found that a considerable proportion of the children had troubling recollections, felt a great deal of anxiety, and re-experienced the traumatic event. Her report called attention to the reality that children can be traumatized and can experience incapacitating anxiety after such events.[4]

Pathophysiology

The immediate physiologic response to trauma can be significant and may set the stage for persistent PTSD symptoms. Alterations in the noradrenergic and dopaminergic neurotransmitter systems and the stress response of the hypothalamic-pituitary-adrenal axis are well documented in PTSD. Effects of this set of responses in the central nervous system can affect later neurophysiologic responses. Hyperarousal and overgeneralization of threat can evolve, prompting the child to react in an extreme fashion to events that resemble or remind the child of the original trauma. Some evidence suggests that chronic PTSD, perhaps through these physiologic changes, can lead to changes in brain microarchitecture.

PTSD can be viewed as a phenomenon resulting from a gene-environment interaction. It appears that individuals with significant interpersonal sensitivity and marked emotional reactivity either to personal distress or to distress in others may also be more likely to develop significant traumatic stress. In addition, females are twice as likely to develop PTSD as males, while males are more likely to develop conduct disorder, antisocial behavior, and/or criminal behavior following significant violent trauma.[5] Children with pre-existing mental health problems are recognized as being more likely to be affected by a traumatic experience, particularly if the child was previously anxious or if the child is

described as having a slow-to-warm-up temperament.

Risk and protective factors for developing posttraumatic stress disorder after trauma

- Personal threat: The degree to which the child actually feels frightened or personally threatened by the traumatic experience(s) is known as personal threat. PTSD is more likely with higher degrees of violence and personal threat.
- Developmental state: Younger children are less able to process traumatic experiences verbally and less able to narrate them and understand their meaning; in some cases, this may mitigate their risk for PTSD.
- Relationship to perpetrator: Being abused by a known and trusted person undermines the child's sense of safety and increases the likelihood of PTSD.
- Support: Traumatized children who are developing in a secure and supportive environment are less susceptible to PTSD than children who endure ongoing abuse. The caregiver's response is also critical. If the caregiver reassures the child, the outcome of the trauma is better than if the caregiver is also shaken, devastated, or withdrawn.
- Guilt: Guilt about or feeling somehow responsible for the trauma predicts more severe PTSD and depressive symptoms.
- Resilience: This refers to a person's ability to cope with difficult circumstances; it seems to be related to intelligence, the ability to talk about one's experiences, the ability to understand others, and the ability to seek help. People with greater resilience are at a decreased risk for PTSD (see Resilience).
- Symptoms at time of abuse: Eventual PTSD is more likely in children who have symptoms of avoidance, emotional constriction, and physiologic hyperarousal soon after the abuse.
- Physiologic response: Those who have an elevated heart rate in the period soon after the trauma (eg, those seen in an emergency department) are more likely to develop PTSD.

Resilience

In its most general sense, resilience may be defined as the ability to adapt positively to adversity.[6] Research of resilience in adolescence and adulthood following childhood maltreatment has identified essential components to resilience, including genetic, biological, cognitive, and interpersonal factors.[7]

Earlier work that focused on resilience noted that individual characteristics such as intelligence, physical attractiveness, and temperament are protective, whereby adults are attracted to the individual in order to provide support and care (Masten, 1990). More recent studies have identified neurobiological variables. For example, studies have found that individuals with high levels of monoamine oxidase A are less likely to develop antisocial behavior following maltreatment in childhood.[8, 9, 6]

A longitudinal study of maltreated children through adolescence and mid life by Collishaw et al (2007) also provided valuable insights into our understanding of how resilience emerges. The dimensions of resilience evaluated were similar to those evaluated in other studies, including (1) the presence or absence of major depressive disorder, recurrent depressive disorder, suicidality, suicide attempts, any anxiety disorder, PTSD, substance-related disorder, (2) personality functioning, (3) relationship stability, (4) legal status, and (5) self-rated health.

While controlling for adversity experienced in adolescence, the maltreated group was found to be at a higher risk for adult substance-related disorders, PTSD, suicidality, and recurrent depression than controls. However, despite this increased risk, 44.5% were characterized as resilient. In addition, recovery and resilience appears to occur in concert with parental support and encouragement. Positively perceived parental care, supportive adolescent peer relationships and adult romantic relationships, and positive personality factors were variables that supported resilience.

Epidemiology

Frequency

United States

The National Center for PTSD estimates the incidence of adult PTSD at approximately 5.2 million cases per year.[10] The prevalence in women is approximately 10%, whereas the prevalence in men is approximately 5%. Considering that approximately 60% of men and 50% of women experience a traumatic event in their lives, these incidence and prevalence statistics for PTSD obviously show that not all people who experience trauma go on to develop PTSD. However, being a victim of a crime appears to predispose to PTSD more so than other traumatic events, with 25% of crime victims experiencing PTSD compared to 9.4% of persons who experience non–crime-related trauma. In 2004, the PTSD Alliance estimated the risk of PTSD after rape to be 49%; a severe beating or physical assault, 31%; a nonrape sexual assault, 23.7%; a shooting or stabbing, 15.4%; a sudden unexpected death of a loved one or family member, 14.3%; and witnessing a murder or violent attack, 7.3%.

Epidemiologic studies of the incidence and prevalence of PTSD in children and adolescents remain limited. In the general US population of children and adolescents, approximately one third of children (range, 14%-43%) have experience a traumatic event prior to adulthood, including the death of a loved one, a serious accident, a natural disaster, sexual abuse, or rape.[10] Of children and adolescents who have had a traumatic experience, 3%-15% of girls and 1%-6% of boys could be diagnosed with PTSD.

Studies of PTSD in at-risk pediatric and adolescent populations (as opposed to general population) paint a different picture, with much higher rates of PTSD. As examples, nearly all children who witness a parental homicide, approximately 90% of sexually abused children, 77% of children exposed to a school shooting, and 35% of urban youth exposed to community violence go on to develop PTSD. A National Institute of Justice (2003) report, based on an analysis of the 1995 National Survey of Adolescents (NSA), found a 4- to 5-fold increase in the lifetime prevalence of PTSD among sexually assaulted boys (28.3%) over that in boys who had not been sexually assaulted (5.4%). The rates in girls were similar, at 29.8% and 7.1%, respectively. The lifetime prevalence of PTSD in girls who were either physically assaulted or received physically abusive punishment compared to those who did not were 27.4% and 6%, respectively, while the rates in boys were 15.2% and 3.1%, respectively.[11]

Internet-related posttraumatic stress disorder

As the use of the Internet grows, the risk of Internet-related sex crimes, such as cyberstalking, increases. The Youth Internet Safety Survey, conducted first in 2001 (YISS-1) and then again in 2006 (YISS-2), collected survey data from nationally representative groups of children and adolescents aged 10-17 years who regularly used the Internet.[12, 13] Although the percentage of children and adolescents who received unwanted sexual solicitations and decreased from 19% in 2001 to 13% in 2006, the percentage who encountered unwanted exposures to sexual material increased from 25% to 34%. The percentage of participants who experienced online harassment also increased, from 6% to 9%.

Among solicited youths, 25% reported high levels of distress after the incident or incidents. The participants most disturbed by the unwanted sexual solicitations included younger individuals (aged 10-13 y), those who were solicited on a computer away from their home, and those who experienced aggressive solicitations (defined as the solicitor attempting to make contact with the youth offline).[12]

International

Little data exist concerning the prevalence of PTSD in countries outside the United States, and the incidence and prevalence vary widely from country to country because of differences in data collection methods, as well as widely divergent cultural and societal factors. Hepp and colleagues (2006) summarized a great deal of data from numerous countries and found the lowest lifetime prevalence of PTSD (0.4%) to be in males aged 14-24 years in Germany and the highest prevalence (43.8%) to be in Algerian females older than 16 years.[14]

In places where armed conflicts exist, children experience frequent trauma by acting as direct victims, by witnessing violence, and by living amid dangerous conditions.

Mortality/Morbidity

PTSD is not a directly fatal condition. However, PTSD is associated with significant comorbidity (see Complications), including substance abuse and dependence, depression, interpersonal difficulties, and other mental health–related conditions.

Race

PTSD has no known racial predilection.

Sex

Males are more likely to be victims of physical assault, and females are more frequently victims of sexual assault.

Girls report greater PTSD symptoms after trauma and are 2-6 times more likely to experience PTSD after sexual abuse than boys. Women have a higher lifetime prevalence of PTSD, but it is unknown if this is related to rates and types of trauma exposure or to a particular vulnerability to PTSD.

The non-PTSD symptoms that abused and neglected girls experience may differ from those of boys. Among sexually abused children, boys are at a higher risk of developing externalizing behaviors (oppositional behavior, impulsivity) and girls are more likely to develop internalizing behaviors (depression, anxiety).

Age

Older children with language abilities are more likely to be able to recount traumatic episodes. In younger children,

behavioral changes may be the only observable signs of trauma.

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