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Prolonged Exposure Therapy for Toddlers With Traumas Following Medical Procedures

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Traumatic events have potentially debilitating long-lasting effects on the child's normal development and, therefore, should be effectively treated. Prolonged Exposure (PE) therapy has been found to be effective in reducing posttraumatic stress disorder symptoms in adults and in adolescents (e.g., Gilboa-Schechtman et al., 2010; Nacasch et al., 2011). It has not yet been tested in toddlers. This paper presents a detailed description of four cases of PE therapy adapted to toddlers and their parents whose posttraumatic stress symptoms developed following invasive medical procedures. Treatment consisted of several active components that were tailored specifically for the treatment of toddlers: psychoeducation about trauma, recounting scenes from the traumatic events, and in-vivo exposures to associated feared stimuli and triggers. The treatments resulted in substantial improvement in the toddlers and in their parents. At the time of treatment termination all toddlers had lost the posttraumatic stress disorder diagnosis and resumed normal functioning. These case studies provide preliminary clinical evidence for the efficacy of PE in toddlers. Conclusions, limitations, and suggestions for future research regarding the treatment of toddlers with PTSD and their parents following medical procedures are discussed.

Studies have documented exposure of preschoolers to traumatic events, including abuse (Cohen & Mannarino, 1996; Deblinger, Stauffer, & Steer, 2001), witnessing interpersonal violence (e.g., Lieberman, Van Horn & Ozer, 2005), motor vehicle accidents (e.g., Meiser-Stedman, Smith, Glucksman, Yule & Dalgleish, 2008), natural disasters (e.g., Scheeringa & Zeanah, 2008), and events related to war and terrorism (e.g., Laor et al., 1996). These studies call the attention of clinicians and researchers to the importance of examining the unique features of posttraumatic stress disorder (PTSD), of its sequelae, and of its treatment within this age group.

Symptoms of PTSD in Toddlers

A traumatic event for young children is defined as a direct or witnessed event that threatened the toddler's or his or her caregiver's physical or emotional integrity (Pynoos, 1990). Toddlers who have been exposed to traumatic events have been shown to display a variety of physical and psychological conditions that may affect their normal developmental trajectory. One of the psychological sequelae of trauma exposure is PTSD.

According to the pioneering work of Terr (1988), infants and toddlers perceive and remember traumatic events. Normally the memory is implicit, namely, a memory that does not require conscious awareness. However, Terr concludes that children age 3 or older at the time of the trauma retain vivid, detailed memories of these experiences over periods of several years. Following a traumatic event, toddlers may develop PTSD, with many symptoms similar to those of older children and adults (Drell, Siegel, & Gaensbauer, 1993). Examples of such events that may cause PTSD include the traumatic death of a loved one, domestic violence, terror attacks, accidents, abuse, medical traumas, and other unexpected and sudden horrifying experiences.

Many toddlers, preschoolers, and children undergo medical procedures and are sometimes hospitalized due to illness or injuries. The medical tests and interventions that are indicated in those situations are often invasive and are accompanied by sensations of discomfort and pain. Posttraumatic reactions among children who have experienced medical procedures are relatively understudied. However, it has been documented that some children who experienced a life-threatening illness and who underwent surgeries, transplants, cancer treatment, or suffered from

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burns developed PTSD (Graf, Bergstraesser, & Landolt, 2013; Graf, Schiestl, & Landolt, 2011; Shemesh et al., 2005; Stuber & Shemesh, 2006; Stuber, Shemesh & Saxe, 2003; Walker, Harris, Baker, Kelly, & Houhton, 1999). It has been shown that among other factors such as family support and parental PTSD, a child's perception of life threat serves as a risk factor for PTSD (Saxe, Vanderblit & Zuckerman, 2003).

The meaning of an illness and of a medical procedure may vary as a function of the child's individual development and of the degree of his or her understanding of the role that the medical team and the parents play in the medical treatment. For example, parents are the decision makers about whether the potentially painful procedure will be performed on their child and are often called upon to assist the medical team by restraining their child during the procedure. Therefore, medically indicated treatments might be experienced by the child as violent acts and well-intentioned medical staff might be perceived as perpetrators, with the parents as their collaborators. Furthermore, parents' perception of the medical procedures, of the illness itself, and of the accompanying pain and suffering endured by their child may exacerbate the child's posttraumatic reactions (Stuber & Shemesh, 2006). Thus, since the appraisal of a medical procedure is subjective and at times influenced by the caregiver's perceptions, it is possible that young children might perceive such medical procedures as extremely frightening and often life–threatening. The variability in the perception of pain and of the invasive procedures among toddlers and preschoolers may affect post-event reactions and recovery (Saxe et al., 2003). Moreover, interventions for toddlers with posttraumatic reactions following medical procedures are scarce. Therefore, clinicians should consider developmental as well as parental responses and beliefs when identifying the presence of PTSD in toddlers.

Assessing and treating toddlers requires developmentally sensitive evaluations, measures, and treatment protocols. Yet, developments in the mental health field for the assessment and treatment of this age group lag behind those for their older counterparts. Scheeringa and colleagues (Scheeringa, Zeanah, Drell, & Larrieu, 1995) had proposed an alternative checklist to the DSM-IV (APA, 2000) criteria, including one or more of the following symptoms: posttraumatic play and play reenactment, nonplay recollections of the trauma (which are not essentially distressing) or nightmares. These authors further suggest that only one symptom of the following avoidance/numbing category is required for the diagnosis of PTSD in very young children: constriction of play (with or without posttraumatic play), social withdrawal, restricted range of affect, or loss of acquired developmental skills, and one symptom of increased arousal. Additionally, they suggested at least one item from a complementary category: new fears (e.g., clinging behavior, fear of toileting), and/or aggression. In line with the studies of Scheeringa et al. (1995), the *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood: Revised edition* (DC:0-3R; Zero to Three, 2005) criteria for PTSD were modified to give greater weight to behavioral indicators and to reflect the developmental manifestation of traumatic stress in the first five years of life. The modifications were as follows: at least one reexperiencing symptom (posttraumatic play, recurrent and intrusive recollections of the traumatic event outside play, repeated nightmares, physiological distress, and episodes of flashbacks or dissociation), at least two hyperarousal symptoms (sleep problems, concentration problems, hypervigilance, exaggerated startle response, irritability/anger), and at least one numbing of responsiveness or interference with developmental progress symptom (increased social withdrawal, restricted range of affect, markedly diminished interest or participation in significant activities, and efforts to avoid trauma reminders). The diagnostic criteria also included regression of developmental skills such as toilet training or return to previous habits (such as using a pacifier), new aggression and new fears. To meet a PTSD diagnosis, this pattern of symptoms persists for more than 1 month.

Treating Toddlers and Preschoolers With PTSD

PTSD, left untreated, may have a long-lasting negative impact in toddlers and preschoolers. Scheeringa and colleagues (Scheeringa, Zeanah, Myers, & Putnam, 2005) found that children (all aged 20 months through 6 years) continued to manifest symptoms and functional impairment over the course of 2 years following initial PTSD diagnosis. These findings suggest that early intervention with young children is highly important in the prevention of the development of chronic PTSD and its debilitating effects.

While experiencing a traumatic event, toddlers are overwhelmed by impressions, emotions, and sensory overstimulation. This may be detrimental to their ability to trust the capability of attachment figures to protect them from harm. Toddlers are usually accompanied by at least one of their parents, who may, therefore, be affected by the same traumatic event. Parents' reactions to the traumatic event, as well as their functioning during and following the trauma, may either buffer or exacerbate the harmful influence of the stressful event on their child's mental state and functioning (Chu & Liberman, 2010). Hence, it is extremely important to include parents in the treatment of the toddler's PTSD, addressing crucial topics such as nurturing the parents' skills and enhancing parent-child interactions.

As mentioned earlier, there are no clear therapeutic guidelines for PTSD in toddlers. Several models were found to be effective in the treatment of preschoolers who were sexually traumatized (Cohen & Mannarino, 1996) and