Preschool children facing mass trauma: Disasters, war and terrorism
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ABSTRACT
Preschool children are exposed to an increasingly wide variety of disasters and terrorist incidents that may have severe effects on their mental health and development. The goal of this paper is to review the research literature regarding the needs of preschoolers in the context of disasters and terrorism with the aim of understanding: a) the consequences of such events for young children and the main moderating variables influencing the event-consequence association. b) the existing methods for assessment, prevention and intervention to provide recommendations and point out required research and development. We differentiate between screening tools that provide initial evaluation and assessment tools for diagnosing preschooler children’s pathology and review possible interventions that address the preschool child’s needs before, during and after the incident itself. We discuss the challenges in performing research following disaster and terrorism and the lack of dissemination and research of prevention programs and mass interventions for preschoolers. Finally, we emphasize the need for research and intervention programs aimed at dealing with the impact of terrorism and armed conflict on children’s worldview.

Introduction
Two comprehensive articles published in Current Psychiatric Reports have recently focused on the specific characteristics of preschool children (0-6 years) exposed to mass disasters, war and terrorism1,2. The present article summarizes the specific vulnerabilities of preschool children, their responses and factors moderating these responses, as well as issues concerning assessment and evidence-based treatment approaches.

Outcome and moderating factors
Although it was assumed3 that preschoolers have a mild response to severe traumas due to their cognitive immaturity, empirical evidence shows that young children, still emotionally immature and lacking autonomy, may be more vulnerable than older children and adults4. In addition to experiencing fears, anxiety, mood and somatic reactions or behavioral symptoms such as sleep problems, aggression or regression, many young children exposed to severe events may also develop symptoms of posttraumatic stress disorder (PTSD), some of which have a dissociative nature (e.g., flashbacks, play reenactment)5,6. This syndrome is characterized by intrusive symptoms (e.g., memories, dreams, flashbacks); avoidance of
stimuli associated with the event; negative alterations in
cognition and mood associated with the traumatic event
(e.g., inability to remember important aspects of the event;
distorted cognitions about the causes or consequences of
the traumatic event that lead to guilt); and alterations in
arousal and reactivity associated with the traumatic event
(e.g., reckless or self-destructive behavior, hypervigilance,
exaggerated startle response).  

In the Fifth Edition of the Diagnostic and Statistical Manual, the PTSD criteria for preschool children are more
developmentally sensitive and behaviorally anchored. For example, the need to show extreme distress at the
time of the traumatic event has been deleted; intrusive
memories seen through play reenactment may not present
as distressing; in addition to modification in wording and
some deletions (e.g., sense of a foreshortened future and
inability to recall an important aspect of the event), only one
symptom is required in either the avoidance symptoms or
negative alterations in cognitions and mood; and “extreme
temper tantrums” was included to “irritability or outbursts
of anger” in the arousal criteria.

Biological outcomes as a result of stress may have
neurological, neuro-endocrinial, physiological and genetic
aspects for preschool children whose brains are in the
process of development, affecting structures involved in
emotion processing and regulation (e.g., amygdala, hippocampus). In war-exposed children, changes in
neuroendocrine markers of stress were associated with a
diagnosis of PTSD.

Among the factors directly related to the traumatic
event and its aftermath that moderate the response of
preschoolers exposed to disaster and terrorism, the most
important is type and number of incidents and level of
exposure. Preschoolers may be exposed directly to the
traumatic event, or indirectly through the impact on their
caretakers and on their community. Preschool children
exposed to the terrorism display significantly higher risk of
internalizing and externalizing behavior problems, even if
they were near the event or knew someone close who was
injured or killed. Exposure to media after a mass disaster
may also predict symptoms of posttrauma and sleep
problems. Displacement as a result of political conflicts
or natural disasters creates significant amounts of stress
on the young child as well as on the entire family system,
due to the loss of the usual routines, schools, health care
and economic instability. The vulnerability of a preschool
child to the experience of a significant traumatic event is
also determined by the accumulation of stressfull life events
such as migration, the birth of a sibling, the death of family
members, parental divorce, or violence in the home.

In regard to the factors related to the human environment,
the most critical for preschool children concerns the level
of protection and containment felt from the parents. In that
regard, children will be more protected and display fewer
psychological symptoms (e.g., posttrauma, behavioral
problems, somatic complaints) if they enjoy a healthy
relationship with the parents and if the parents’ reaction
to the trauma is more contained. Therefore, a secure
attachment is of particular importance in the ability of the
preschool child to regulate and process traumatic events,
supported by the caregiver’s containment, emotional
availability and empathic responsiveness. Notably, most
studies in this domain do not focus on the child-father
or the triadic relation but mainly on the mother vis-à-vis
the young child. The quality of family atmosphere may
also play a significant role in the processing of trauma,
particularly the parental ability to maintain their role, the
level of tension and anxiety that may naturally increase, and
how much support the family experiences from friends, the
extended family, and the community.

However, when understanding the association between
the reaction of parents and children to traumatic events,
one should consider two important issues: first, that the
influence in the parent-child dyad could be bidirectional,
that is the reaction of the child may also influence that of
the parents, and second, that a genetic susceptibility for
developing posttraumatic stress may be transmitted to
the children by the parents. To support the importance
of genetic contributions to the child’s reactions to trauma,
research has found that PTSD risk is associated with
an interaction between genetic dispositions and early
experiences and with a combination of a biological,
oxytocin-vasopressin genotype and sensitive caregiving
by mothers during evocation of a traumatic event. Some
characteristics of the preschooler’s inborn temperament,
such as the capacity for self-regulation, have been found
to impact the type of response and the level of adjustment
following exposure, especially when parental containment
is compromised.

Studies suggest the importance of considering the
child’s age during the traumatic exposure, an indicator of
psychological development of the preschooler, as another
significant moderating factor. In one study, the probability
of developing PTSD was twice as higher in children exposed
to trauma at the ages 3 to 5 compared to younger ones (ages
1.5 to 3). The vulnerability of the 3 to 5 age-period may be
a consequence of increased anxiety and regression due to
the acquisition of skills that enable children to project to
the future (linguistic, symbolic, and executive).

Assessment

Assessment of preschool children ought to consider
their limited verbal abilities and the fact that parents
are more likely to notice their symptoms (e.g., sleep
disturbance, separation difficulties). Screening tools
been recently adapted. Because parents of traumatized

criteria of preschoolers' posttraumatic stress that have

cost-effective public health approach. 

enhancement programs targeting all children could be

natural or human-made disasters, it seems that resilience

exposure. Because most societies could be exposed to

parental resilience programs may mitigate preschoolers'

relationship, parental sensitivity, and attachment patterns,

physiological management and emotional containment and

attacks demonstrated a 57% lower rate of post-trauma

resilience among children exposed to ongoing rocket

incident compared to a control group. The intervention included techniques of cognitive balance, 

psychological management and emotional containment and 

regulation 25. In addition, by reinforcing the child-parent 

attachment and supportive care influence children's 

adaptation 27. By preparing families for future disasters, we 

may enhance their role and decrease helplessness, guiding 

caregivers during and immediately after an incident.

Resilience enhancement prevention programs to face 

mass trauma have been published for school children 28 

but not for preschoolers. For example, a universal cost-

effective teacher-delivered intervention aimed at building 

resilience among young children usually report a significant level of distress 

that may affect the objectivity of their report, the direct 

assessment through behavioral observation of the children 

seems paramount.

Prevention/Resilience and Preparedness

Caring for masses of exposed children requires 

enhancing their readiness by strengthening their resilience 

prior to the traumatic exposure. Within the family, secure 

attachment and supportive care influence children's 

adaptation 27. By preparing families for future disasters, we 

may enhance their role and decrease helplessness, guiding 

caregivers during and immediately after an incident.

During, immediately and several weeks after the 

incident

The role of providing basic needs (e.g., water, food, 

shelter, sleep) and helping caretakers in the containment 

and processing of children's stress is paramount. However,

the stressful reaction of parents to the traumatic incident 

may affect their ability to contain the preschoolers' feelings.

Exposure to media can be distressing for adults and also 

for preschoolers, who are sensitive to the reactions of their 

parents and lack understanding of the images watched 

as well as may not understand that they are watching the 

same event over and over 9,30,31. Therefore, a general 

recommendation is to restrict preschool children's media 

viewing of disaster events and/or to provide parents with 

strategies for addressing the media with children 32,33.

Traumatic memories are created by experiences that 

cause high levels of emotional arousal that activate stress hormones. These memories may become consolidated as 

enduring long-term memories shortly after the exposure, 

with harmful long-term consequences in young children. 

Therefore, interventions aiming at processing traumatic 

experiences need to be provided shortly following the 

event, despite the possible disruption of naturally recovery 

processes. For example, through storytelling and drawing, 

Psychological First Aid recruits family resources to 

strengthen the traumatized family system and facilitates 

the expression and processing of feelings in the immediate 

aftermath of disaster and terrorism 34. Psychoeducation 

to caregivers offers information about adaptive and 

maladaptive responses of children and adults following 

mass trauma 39 to help sensitively conceptualize reactions 

and needs 40. Despite the clinical experience, the evidence of 

these promising approaches still needs to be demonstrated 

for preschool children.

Interventions

Because most societies lack the resources required 
to individually assist masses of children, post-disaster 

therapeutic approaches may require a group format, 
such as universal teacher-delivered interventions in the 

kindergarten setting 35,36,37. Supported by the trusting 

relations with children and parents, these non-stigmatic 

interventions have been found to effectively reduce the 

post-exposure suffering of school-age children following 

natural disasters and wars 35,36,37,38,39.

However, for the most symptomatic preschoolers, 
group interventions may not be sufficient to alleviate their 
suffering. In these cases, cognitive behavioral therapy (CBT) approaches 45, narrative exposure therapy 41, and 

Eye Movement Desensitization and Reprocessing 42 could 

be considered. Trauma-focused cognitive-behavioral therapy (TF-CBT) for preschoolers with PTSD has shown 

efficacy in controlled trials 43. The protocol comprises 

psychoeducation about PTSD, recognition of feelings, 

training in coping skills, graduated exposure to reminders 

and safety planning.

Preliminary findings also demonstrated the efficacy of 
Prolonged Exposure therapy (PE) adapted to children 

aged 2-3 and their parents following invasive medical 

procedures 44. This approach combines psychoeducation, 

recounting traumatic scenes and in-vivo exposure.

Child-Centered Play Therapy may provide preschoolers 

with a nonverbal means of expression 45. A meta-analysis of 

93 controlled studies demonstrated the effectiveness of play 

therapy with children exposed to traumatic experiences 46.
For example, Huggy-Puppy (HPI), in which children are asked to take care of a Huggy-Puppy doll, found significant reductions in stress reactions among children aged 3-6 exposed to a war. As disasters or terrorism affect entire families, family or parent-child approaches, though still awaiting empirical support, may enhance parents’ ability to mobilize resources, contain own fears and those of their child and learn skills to cope with avoidance and reminders.

Despite the extensive use in the treatment of preschool PTSD, psychopharmacological interventions are not recommended until randomized controlled trials are conducted. The practice guidelines of the American Academy of Child and Adolescent Psychiatry emphasize the need to address the safety and efficacy of these medications with preschoolers, especially considering the developing brain of young children. Medications are justified primarily to treat comorbid symptoms among children, for example, sleeping problems.

**Conclusions**

Empirical studies contribute critical information concerning assessment, prevention and intervention with young children. The challenges in performing research following disaster and terrorism concern the categorization of different types of traumatic exposure (e.g., type and severity), the capability to operate under a state of urgency and chaos characteristic of post-disaster environments, ethical concerns regarding withholding treatment, and using assessment tools that control for caregivers’ bias.

As working in a group format may be more cost-effective following mass disasters, there is a need for mass interventions for preschoolers to be validated. Moreover, teacher-delivered evidence-based interventions that have shown promising results in preventing and reducing psychological symptoms are needed for preschoolers in kindergarten and daycare settings.

Another research area that is particularly lacking is the potential impact of events such as mass disasters, continued terrorism, and armed conflict on children’s worldview. Psychotherapeutic and socio-educational programs aimed at dealing with this impact on traumatized children may help prevent the formation of stereotypes and the potential cycle of violence in future generations.

This review described the needs of preschool children by discussing how to strengthen their endurance, assess their problems, and intervene to help them avoid or overcome the negative consequences of disasters and terrorism. Intervention programs are also needed for refugees worldwide who require culture-sensitive professional support, and for victims of inner-city violence. The coordination of service providers during routine times may augment social capital and the resilience of communities at risk to face future challenges.

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**Conflicts of Interest**

The authors confirm that they have no conflicts of interest.

**References**


