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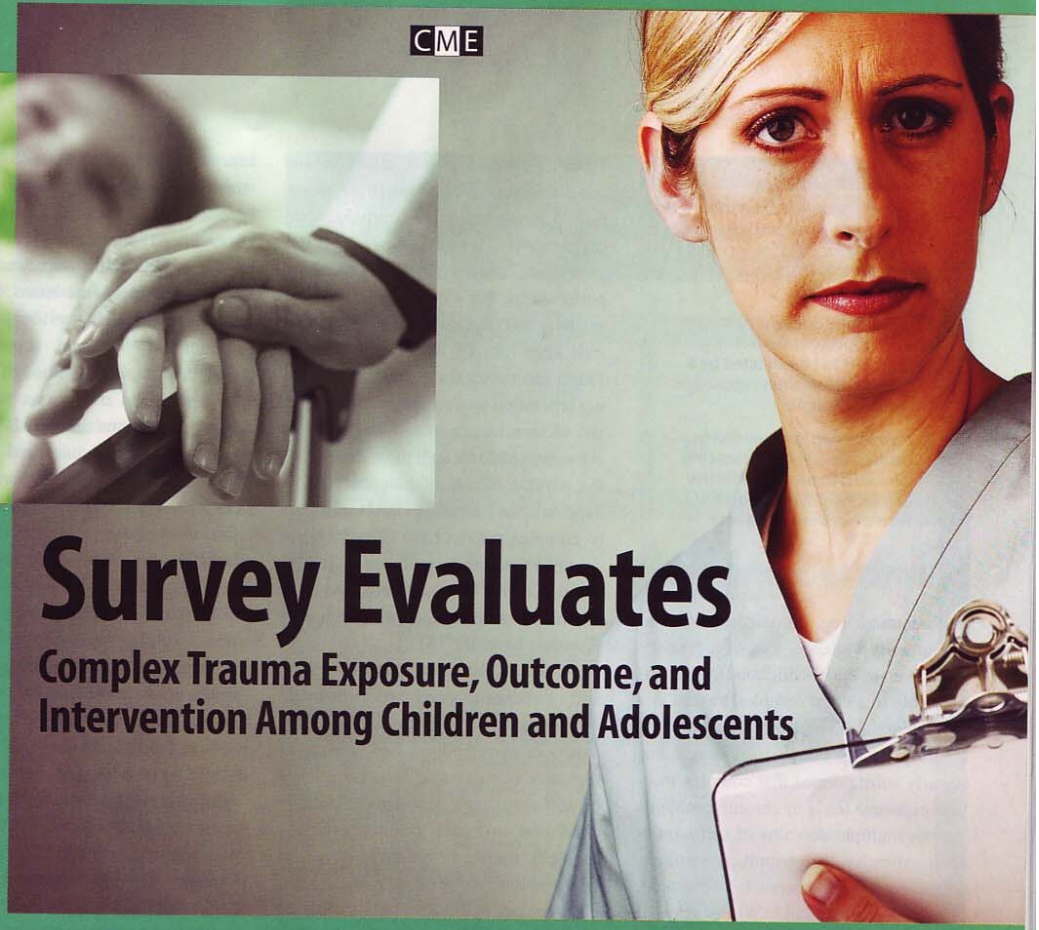

Survey Evaluates

Complex Trauma Exposure, Outcome, and Intervention Among Children and Adolescents

The term complex trauma refers to a dual problem of exposure and adaptation.[1,2] Complex trauma exposure is the experience of multiple or chronic and prolonged, developmentally adverse traumatic events, most often of an interpersonal nature (eg, sexual or physical abuse, war, community violence) and early-life onset. These exposures often occur within the child's caregiving system and include physical, emotional, and educational neglect and child maltreatment beginning in early childhood (Cook et al., see page 390).[2]

According to the National Child Abuse and Neglect Data System developed by the Children's Bureau of the US Department of Health and Human Services (DHHS), 903,000 cases of child maltreatment were substantiated in the United States in 2001 — and this number is thought to be an underestimate.[1] The Third National Incidence Study of Child Abuse and Neglect,[2] an epidemiological study, estimated the incidence of children at risk of harm through abuse and neglect to be 2,815,600 in 1993. Considering that complex trauma may take many other forms in addition to

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EDUCATIONAL OBJECTIVES

1. Identify the three most common forms of trauma exposure reported for children served by the National Child Traumatic Stress Network.
2. Discuss the domains of impairment reported by practicing clinicians to be exhibited by a majority of children exposed to complex trauma.
3. Describe two intervention modalities reported by practicing clinicians to be most effective in treatment with children affected by complex trauma.

maltreatment (eg, chronic exposure to community violence, loss of a primary caregiver in early childhood), it is undeniable that child complex trauma is a prevalent public health problem.

A growing body of research has clearly substantiated that complex trauma exposure leads to chronic problems across multiple domains of self-regulation: affective, behavioral, physiological, cognitive/perceptual, relational, and self-attributional.[1] While affected children often meet criteria for posttraumatic stress disorder (PTSD), expressions of psychopathology typically extend beyond the symptoms captured by that disorder, and often include psychiatric disorders and functional deficits in the areas of attachment, anxiety, mood, eating, substance abuse, attention and concentration, impulse control, dissociation, somatization and chronic medical problems, sexual behavior and development, and learning and scholastic performance. For example, in a study of sexually and physically abused boys and girls ages 7 to 13, PTSD was only the fourth most common diagnosis, following separation anxiety, oppositional defiant, and conduct disorders.[3] Both clinical consensus and research have shown that the adverse effects of complex trauma exposure can be lasting; adult survivors of complex trauma have been found to continue to exhibit significant deficits in many domains of functioning and meet criteria for a wide range of psychiatric disorders beyond PTSD.[4]

Although the prevalence of PTSD and associated psychiatric disorders in traumatized children has been estimated in community[5,6] and clinical or high-risk populations,[7,8] the prevalence of self-regulatory problems related to childhood complex trauma exposure has been studied in regard to only specific, limited problems in clinical samples (eg, suicidality,[9,10] early childhood regulatory and attachment disorders[11]).

The National Child Traumatic Stress Network (NCTSN) was created in 2001 to address the widespread effects of trauma on children's lives in the United States. Funded by DHHS through the Substance Abuse and Mental Health Services Administration (SAMHSA), the NCTSN brings together leading academic clinical research institutions and front-line community service providers delivering inpatient, outpatient, residential, school- and home-based, homeless, and juvenile justice services to children and families in urban, suburban, and rural communities. Although many of these programs always recognized psychological trauma and PTSD as important factors in the lives and treatment of the children and families whom they serve, the NCTSN has provided the first national mandate for them to develop and disseminate effective services for this population.

With the onset of this network, clinicians and researchers have begun to share observations that many of the children and families being served had experienced multiple types of often severe and persistent trauma[12] and were exhibiting a wide array of subsequent symptoms, behaviors, and difficulties consistent with fundamental problems with self-regulation.[13] In response, the Complex Trauma Workgroup (CTWG) of the NCTSN was established to better understand and address the mental health needs of this large but often overlooked subset of traumatized children and their families.

In 2002, the CTWG conducted a survey to assess clinicians' perceptions of the extent and nature of complex trauma

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exposure and sequelae in children and families receiving treatment services at network sites. The survey also assessed the types and perceived effectiveness of interventions used with children affected by complex trauma. This article provides a summary of this study and its results.

METHOD

Measures

The survey was developed based on a review of the literature and collective clinical and research experience through a multi-level survey design, including an expert consensus by members of the CTWG and review and approval by the National Center for Child Traumatic Stress (NCCTS) of the NCTSN. The survey was completed by clinicians who were asked to provide aggregate data on their child trauma caseloads. As the unit of analysis in this study is the clinician and not the child, interrelations among child demographic, trauma exposure, and symptom variables could not be examined.

The survey asked respondents to describe the size, demographics, trauma histories, and symptomatic and functional problems of their child/family caseloads in the 12-month period between January 1 and December 31, 2002. Respondents also were asked to identify intervention modalities employed with these patients and to select those modalities they considered most and least effective in treatment of complex trauma.

Participants/Procedure

The survey was sent to 118 clinicians at 34 eligible network sites; 62 clinicians (range = 1 to 6 respondents per site) from 25 sites returned the survey, reflecting a response rate of 74% for sites and 53% for clinicians. Survey dissemination followed a representative, but not random, sampling procedure. Specifically, NCTSN regional liaisons solicited names of up to five direct child service clinicians per site from the directors of the 36 Category II (academic institutions) and Category III (community provider agencies) Network sites in existence at the time of the survey. No information about survey content was provided to site directors. Directors were asked to select clinicians with caseloads of 10 or higher who could address the range of service settings and types offered at the site.

Two of the 36 sites solicited were ineligible due to a lack of active clinicians in 2002. Eight of the nine eligible Category II sites provided survey data, one site declining to participate. Of the 25 eligible Category III sites solicited,

TABLE.

Demographic Characteristics of Children* Represented in the NCTSN Complex Trauma Survey

		n	% of Sample
Child trauma client age			
	0-2	59	3.5
	3-5	382	22.5
	6-11	646	38.0
	12-15	418	24.6
	16-21	194	11.4
Child trauma client race			
	White	955	56.2
	Black or African American	507	29.8
	Asian	35	2.1
	Mixed	115	6.8
	Other	19	1.1
	Unknown	68	4.0
Child trauma client ethnicity			
	Hispanic or Latino	369	21.7
	Not Hispanic or Latino	1295	76.2
	Unknown	35	2.1
Child trauma client gender			
	Female	967	56.9
	Male	732	43.1
Family status			
	Intact biological	362	21.3
	Divorce/stepparent(s)	213	12.5
	Divorce/single parent	533	31.4
	Adoptive home	77	4.5
	Foster home	309	18.2
	Living with relatives	152	8.9
	Unknown	17	1.0

*n = 1699

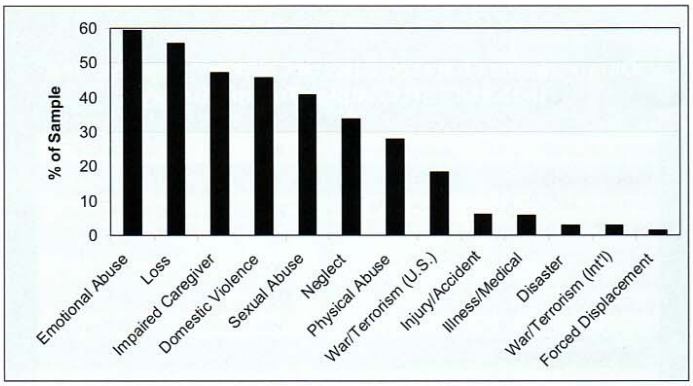

Figure 1. Prevalence of trauma exposure types in children represented in the survey.

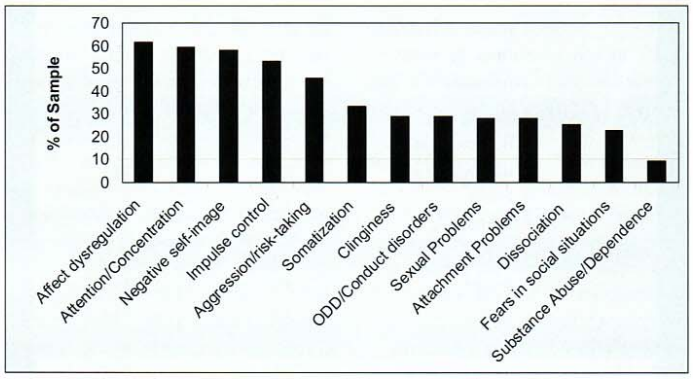

Figure 2. Prevalence of posttraumatic sequelae in children represented in the survey.

17 provided data, one was unable to respond in time due to local IRB requirements, four declined participation or did not respond, and clinicians at three sites failed to complete the survey. Participating sites were located in 19 states distributed throughout the continental US and the District of Columbia. The geographic distribution and types of communities and programs represented by participating sites were comparable to those of the entire NCTSN, and represent a cross-section of child and family service programs and patients that is consistent with the national sample of service programs represented in the SAMHSA Center for Mental Health Services[14] evaluation of comprehensive community mental health services for children and their families.

RESULTS

Caseload Size and Demographics

Reported caseload size ranged from four to 150, with a mean of 27.4 (SD = 23.3). Aggregate data were provided on a sample of 1,699 children, constituting approximately 15% of the total population of children directly served by the NCTSN during a typical year. Demographic characteristics of the children and families represented in this survey are shown in the Table (see page 435) and are consistent with those served by the entire NCTSN. Child patients described by respondents were comparable to children receiving community mental health services nationally,[15] with some exceptions. They were more likely to be 5 or younger (25% versus 8%); less likely to be adolescents (35% versus 62%); more likely to be black (30% versus 17%); more likely to be female (57% versus 38%); and more likely to be in foster placement (18% versus less than 10%). The majority of children received child trauma specialty services (63%) or a combination of general mental health and specialized trauma services (27%), in an outpatient mental health clinic setting (79%).

Trauma Exposure

The majority of patients described by clinicians (77.6%) had been exposed to multiple and/or prolonged trauma, with a mean number of three (SD = 1.8, range = 1-11) trauma exposure types (Figure 1). Within a given type, multiple incidents or chronic ongoing exposure may have occurred. Initial exposure was reported to occur early, with an average age of onset of 5 years (SD = 2.8). Moreover, although one-third of the sample was adolescent, 93% of clinicians reported average trauma onset before age 8, and 98% by age 11.

Interpersonal victimization uniformly emerged as the most prevalent form of trauma exposure, with the locus of impact typically in the home (Figure 1). Specifically, psychological maltreatment (ie, verbal abuse, emotional abuse or emotional neglect) and traumatic loss were reported to have occurred for more than half of all child patients, and dependence on an impaired caregiver (ie, parental mental illness or substance

abuse), domestic violence, and sexual maltreatment/assault for more than 40% of the children treated. Neglect (physical, medical, or educational) and physical maltreatment or assault were reported to have occurred for approximately 30% of child patients. Almost one in five children was described as having been exposed directly to war or terrorism within the US. Forms of trauma exposure not involving interpersonal victimization were less often reported; fewer than 10% of child patients had been exposed to serious accidents, medical illness or disaster.

Complex Posttraumatic Sequelae

Clinicians reported that a large percentage of the children being served were exhibiting several forms of posttraumatic sequelae not captured by the symptoms of PTSD, other anxiety disorder, or mood disorder (Figure 2, see page 436). Notably, 50% or more were reported to exhibit significant disturbances in the following domains: affect regulation, attention and concentration, negative self-image, impulse control, and aggression or risk taking. In addition, approximately one-third of the sample demonstrated problems with somatization, conduct or oppositionality, age-inappropriate sexual interest, activity or avoidance, attachment, or dissociation.

Treatment Approaches

The five most common modalities reported as being used with children who had experienced complex child trauma were: weekly individual therapy (77.8%), coping or self-management skills coaching (62.2%), parent–child or family therapy (56%), play therapy (54.9%), and expressive therapies (41.3%).

Clinicians also were asked to rank the three most and least effective modalities for treatment of children who had been exposed to complex trauma based on the subset of modalities in practice at their setting and direct clinical observation and/or empirical demonstration of treatment outcomes at their site.

Almost one in five children [in the survey] was described as having been exposed directly to war or terrorism within the United States.

Despite the wide array of interventions reported as available, no clear consensus emerged regarding the relative effectiveness of available modalities. Notably, five of the seven modalities identified by respondents as most effective — play, group, expressive, and multisystemic therapies and self-management skills coaching — were also ranked by respondents among the seven least effective interventions with this population. Only individual and family therapy were perceived to be effective intervention modalities by a majority of respondents (78% and 57%, respectively).

Consistent with the positive evaluation of family therapy modalities, the majority of respondents spontaneously identified the active involvement of caregivers in children's treatment as a crucial element in treatment. Many clinicians also noted the utility of combined approaches to intervention, as well as the need to tailor intervention services to children's specific needs based on contextual factors, which include developmental stage, sociocultural context, and the availability of environmental resources. Finally, several clinicians pointed to the importance of coordinating services across service sectors (eg, schools, mental health, social services).

DISCUSSION

This survey provides a preliminary description of the types of complex child trauma exposures and their sequelae and treatment, as reported by clinicians representing both the leading academic clinical research institutions and community providers, in the child traumatic stress field nationally. Although the survey was not intended to represent the broader children's mental health services system, the clinicians surveyed and their programs and patients were similar in geographic distribution, demographic characteristics (with notable exceptions discussed below), and service/program types to the providers and patients included in the largest national study of community mental health services for children.[14] The survey results, therefore, provide a basis for clinical hypotheses about the nature and extent of trauma exposure and posttraumatic sequelae experienced by children receiving psychiatric services in the US, which can be more definitively tested in subsequent epidemiological studies.

The results are striking in suggesting a substantial prevalence of children in mental health services who have had multiple, chronic, and early-onset trauma exposures and severe biopsychosocial impairment. Moreover, interpersonal traumas, and in particular psychological maltreatment, traumatic loss, and family violence, were the most commonly reported types of trauma exposures. Interestingly, these experiences do not necessarily meet the "Criterion A" definition

for a traumatic event from the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (*DSM-IV*),[16] which requires, in part, an experience involving "actual or threatened death or serious injury, or a threat to the physical integrity of self or others." Children exposed to these prevalent types of interpersonal adversity thus typically would not qualify for a PTSD diagnosis unless they also were exposed to experiences or events that qualify as "traumatic," even if they have symptoms that would otherwise warrant a PTSD diagnosis.

This finding has several implications for the diagnosis and treatment of traumatized children and adolescents. Non-Criterion A forms of childhood trauma exposure, such as psychological or emotional abuse and traumatic loss, have been demonstrated to be associated with PTSD symptoms and self-regulatory impairments in children[17,18] and into adulthood.[19] Thus, classification of traumatic events may need to be defined more broadly, and treatment may need to address directly the sequelae of these interpersonal adversities, given their prevalence and potentially severe negative effects on children's development and emotional health.

Notably, exposure to terrorism and war was reported to have occurred for a substantially larger subset (as many as one in five child patients) than has been reported previously in surveys of child mental health samples in the US.[20] This finding may be related to the recency of the September 11, 2001, terrorist attacks, as well as the presence of several NCTSN sites in New York, NY. However, it also may reflect the importance of recognizing exposure to war and terrorism as potentially traumatic stressors for children in the US.

The relatively low prevalence estimates of exposure to noninterpersonal traumas such as accidents, disasters, or severe illness are consistent with findings from community epidemiological samples but lower than those reported in child mental health and urban juvenile justice detention center samples.[21] These findings highlight the greater risk that children receiving mental health services have of experiencing complex interpersonal trauma compared with noninterpersonal trauma. It also, however, raises the possibility that clinicians treating children with extensive trauma histories and severe biopsychosocial impairments may overlook potential types of trauma that seem less important because they are accidental or caused by larger natural forces. Noninterpersonal trauma should not be overlooked in a thorough screening or assessment, even with children who have prominent histories of more complex trauma.

A large percentage of the children and adolescents receiving mental health and related services across the country may have experienced complex trauma exposures and adaptations.

Clinicians surveyed commonly reported symptoms and behaviors in their child patients that were consistent with complex adaptations to trauma. Results suggest that between approximately one-third and one-half (or more) of these children had impairments in the six domains of self-regulation typically disrupted by complex trauma: affect dysregulation, information processing (eg, attention/concentration difficulties, dissociation), self-concept (eg, negative self-image), behavior (eg, aggression, risk-taking, conduct or oppositionality problems), relationships (eg, attachment problems), and biology (eg, somatization). One limitation of this study was that symptoms of PTSD were not included in the survey, thus making it impossible to compare the frequency of complex adaptations to trauma to PTSD symptomatology. Nevertheless, it is clear that a large percentage of the children and adolescents receiving mental health and related services across the country may have experienced complex trauma exposures and adaptations.

This survey also showed the lack of clinical consensus on effective treatments for child trauma victims. Individual and family therapy were the only modalities unequivocally ranked as effective. Family therapy's designation as an effective approach to treatment is consistent both with the frequent occurrence of intrafamilial trauma in these children's lives and clinicians' belief that family involvement is crucial to achieving positive outcomes. The survey did not ask about particular models of individual (eg, cognitive-behavior, psychodynamic) or family (eg, strategic, behavioral) therapy, so the survey findings may be due to clinicians' use of specific approaches or extend across the different models of individual and family therapy. More detailed examination of clinicians' perceptions of specific models of individual and family therapy for children's complex trauma adaptations is warranted, and to that end the CTWG has identified core components for interventions with children (Cook et al., see page 390).

Ratings for other therapeutic modalities (eg, home-based, play, expressive, group, pharmacologic) were more equivocal. These modalities tended to be more specific in their application than individual or family therapy, controversial among clinicians and researchers, and less familiar to child mental health clinicians without specialized training. These findings suggest either that most treatment modalities have yet to be successfully adapted for this population, or else that clinicians have not been made aware of potentially effective approaches that could contribute to a multi-component intervention.

Related to the demographic characteristics of the survey sample, the substantial proportion of child patients served by NCTSN sites who are in foster care (almost one in five) is an indication of the importance of identifying and treating the sequelae of complex trauma among children who are likely to have experienced not only abuse and neglect but also multiple disruptions and losses of relationships with primary caregivers.

Furthermore, the greater representation of young children (5 or younger) in this survey compared to that reported by the comprehensive evaluation of child community mental health services is consistent with an increasing emphasis in the past decade[15] on identifying and treating mental health problems early enough to prevent or mitigate chronic developmental and psychosocial impairment. The NCTSN specifically addressed this mandate to treat young children by funding a network of sites within the larger national network that provides treatment and assessment for traumatized infants, toddlers, and preschoolers. The finding further suggests that complex trauma can and should be identified in early childhood, both to enhance treatment outcomes for young children and to reduce the severity and chronicity of self-regulatory problems that are evident for school-age and adolescent patients in the survey's findings.

SUMMARY

The survey results overwhelmingly indicate that complex trauma exposure and posttraumatic adaptation involving self-regulatory impairment are prevalent in the caseloads of child and family clinicians who work with traumatized patients. These results suggest that mental health professionals need assessment and treatment strategies, tools, and protocols for use with this population that they can integrate into their existing practices.

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